Ec 7/4/982

The Economic and Budget Outlook:
An Update

NEWARK PUBLIC LIBRARY
NOV 15 1982
U. S. GOVT. PUBS.
DEPOSITORY 376

September 1982

A Report to the
Senate and House
Committees on the Budget
As Required by Public Law 93-344

NOTICE
There Should Be No Release
of This Document Until
5 p.m. (E.D.T.)
Wednesday, September 1, 1982

CONGRESS OF THE UNITED STATES   CONGRESSIONAL BUDGET OFFICE

910.2:

THE ECONOMIC AND BUDGET OUTLOOK:
AN UPDATE

The Congress of the United States
Congressional Budget Office

For sale by the Superintendent of Documents, U.S. Government Printing Office
Washington, D.C. 20402

blank page

PREFACE

The Economic and Budget Outlook: An Update is one of a series of reports on the state of the economy and the budget issued periodically by the Congressional Budget Office (CBO). This report was produced in conjunction with testimony given by Alice M. Rivlin before the Senate Budget Committee on July 27, 1981. In accordance with CBO's mandate to provide objective analysis, the report contains no recommendations.

The report was prepared by George R. Iden, Frederick Ribe, Frank S. Russek, Jr., Stephen H. Zeller, Robert A. Dennis, Peter M. Taylor, Christopher D. Kask, Stephan Thurman, Joseph A. Ritter, John W. Straka, David M. Santucci, Naif A. Khouri, Debra Holt, and Peter Woodward, under the direction of William J. Beeman and Lloyd C. Atkinson. Chapter V was prepared by CBO's Budget Analysis Division, under the direction of James L. Blum with the assistance of Paul Van de Water of the Budget Analysis Division and Rosemary Marcuss of the Tax Analysis Division. Robert L. Faherty and Francis S. Pierce edited the manuscript. Debra M. Blagburn, Mechita O. Crawford, and Dorothy J. Kornegay typed the many drafts.

Alice M. Rivlin
Director

September 1982

blank page

READEX FICHE

CONTENTS

Page

PREFACE iii

CHAPTER I. SUMMARY AND INTRODUCTION 1
- Recent Economic Developments 2
- The Economic Outlook 6
- The Budget Outlook 10
- Conclusion 13

CHAPTER II. RECENT ECONOMIC DEVELOPMENTS 15
- The Current Recession 17
- Few Signs of Recovery 21
- An Atypical Inventory Cycle 23
- Reduction in Inflation 25
- Expectation of a Consumer-Led Recovery 27
- Weakening of Business Fixed Investment 29
- Sluggish Growth Abroad 30
- Conclusion 31

CHAPTER III. FISCAL AND MONETARY POLICY 33
- The Budget Deficit and Fiscal Stimulus 33
- Federal Credit Demands and Crowding Out 36
- Monetary Policy and Recent Financial Conditions 38
- The Current Outlook for Financial Conditions 50
- Conclusion 51

CHAPTER IV. THE CBO SHORT-RUN FORECAST AND THE PROSPECTS FOR GROWTH THROUGH 1985 53
- The Forecast 53
- Medium-Term Projections 57

CHAPTER V. THE BUDGET OUTLOOK 61
- CBO Budget Projections 61
- Overall Budget Trends 70
- Conclusion 74

CONTENTS CONTINUED

Page

APPENDIX A. EVIDENCE OF MONEY DEMAND INSTABILITY IN 1982 79

APPENDIX B. SENSITIVITY OF THE BUDGET TO ECONOMIC ASSUMPTIONS 87

TABLES

Page

TABLE 1. MAJOR ECONOMIC INDICATORS 3

TABLE 2. FINANCIAL INDICATORS 4

TABLE 3. THE CBO FORECAST 8

TABLE 4. SUMMARY COMPARISON OF ECONOMIC ASSUMPTIONS 11

TABLE 5. CBO BUDGET REESTIMATES 12

TABLE 6. INDICATORS OF ECONOMIC ACTIVITY 18

TABLE 7. INDICATORS OF PRICE AND WAGE INFLATION 22

TABLE 8. EMPLOYMENT COSTS 26

TABLE 9. THE FEDERAL BUDGET 35

TABLE 10. THE FISCAL POLICY OUTLOOK 36

TABLE 11. FUNDS RAISED IN U.S. CREDIT MARKETS BY NONFINANCIAL SECTORS DURING RECESSIONS 37

TABLE 12. MEASURES OF NONFINANCIAL CORPORATE LIQUIDITY IN THE FIRST TWO QUARTERS OF POSTWAR RECESSIONS 43

TABLE 13. MONETARY GROWTH RATES 46

TABLE 14. GROWTH OF SELECTED COMPONENTS OF M1, 1975-1982 48

TABLE 15. THE CBO FORECAST FOR 1982 AND 1983 55

TABLE 16. COMPARISON OF ECONOMIC ASSUMPTIONS 59

TABLES CONTINUED

Page

TABLE 17. FIRST BUDGET RESOLUTION TARGETS AND CBO PROJECTIONS 62

TABLE 18. CBO BUDGET REESTIMATES 63

TABLE 19. REVENUE REESTIMATES ATTRIBUTABLE TO REVISED CBO ECONOMIC ASSUMPTIONS.......... 64

TABLE 20. OUTLAY REESTIMATES ATTRIBUTABLE TO REVISED CBO ECONOMIC ASSUMPTIONS.......... 66

TABLE 21. CBO TECHNICAL OUTLAY REESTIMATES.......... 68

TABLE 22. CBO PROJECTIONS OF REVENUES BY SOURCES.......... 71

TABLE 23. CBO PROJECTIONS OF OUTLAYS BY MAJOR FUNCTION 73

TABLE 24. CBO PROJECTIONS OF FEDERAL DEBT SUBJECT TO STATUTORY LIMIT 74

TABLE 25. TRENDS IN REVENUES AND OUTLAYS.......... 75

TABLE 26. COMPOSITION OF FEDERAL OUTLAYS 76

TABLE A-1. AMOUNTS BY WHICH THREE STATISTICAL MONEY DEMAND EQUATIONS UNDERESTIMATE THE LEVEL OF THE STOCK OF MONEY, 1982:1 TO 1982:2 83

TABLE A-2. ESTIMATED DECLINES IN SHORT-TERM INTEREST RATES RESULTING FROM FULL ACCOMMODATION OF MONEY DEMAND SHIFTS, BASED ON STATISTICAL MONEY DEMAND EQUATIONS.......... 84

TABLES CONTINUED

Page

TABLE B-1. THE EFFECT ON BUDGET PROJECTIONS OF SELECTED CHANGES IN ECONOMIC ASSUMPTIONS 89

TABLE B-2. THE EFFECTS ON BUDGET PROJECTIONS OF A ONE-PERCENTAGE-POINT LOWER REAL GROWTH RATE 90

TABLE B-3. THE EFFECTS ON BUDGET PROJECTIONS OF A ONE-PERCENTAGE-POINT HIGHER UNEMPLOYMENT RATE........................ 91

TABLE B-4. THE EFFECTS ON BUDGET PROJECTIONS OF A ONE-PERCENTAGE-POINT HIGHER INFLATION RATE 93

TABLE B-5. THE EFFECTS ON BUDGET PROJECTIONS OF A ONE-PERCENTAGE POINT HIGHER INTEREST RATE 95

blank page

FIGURES

Page

FIGURE 1. INTEREST RATES IN RECESSIONS, ADJUSTED FOR INFLATION 5

FIGURE 2. ECONOMIC INDICATORS 19

FIGURE 3. INVENTORIES RELATIVE TO TREND SALES 24

FIGURE 4. HOMEOWNERS' EQUITY REALIZATION 28

FIGURE 5. INTERNATIONAL SECTOR 31

FIGURE 6. UNIFIED BUDGET DEFICITS AS A PERCENT OF GNP 34

FIGURE 7. INTEREST RATES SINCE 1980.................. 39

FIGURE 8. DEVIATIONS OF INTEREST RATES FROM TREND 41

FIGURE 9. REAL INTEREST RATES SINCE 1930............. 42

CHAPTER I. SUMMARY AND INTRODUCTION

The purpose of this report is to update the economic and budget projections of the Congressional Budget Office (CBO) to reflect economic developments and Congressional actions over the past six months. Last February, the CBO projected an end to the recession and fairly rapid economic growth in the second half of 1982. The reason for projecting an upturn was the expectation that: (1) the inventory adjustment would have run its course; (2) consumer spending would be stimulated by the July tax cut and Social Security benefit increase; and (3) declining interest rates would encourage a pickup in sales of housing and other interest-sensitive durable goods. Lower interest rates would also lead eventually to a recovery in investment spending.

The CBO still expects a recovery beginning in the second half of this year, though at a somewhat slower rate than seemed likely last winter. Credit conditions turned out to be much tighter and the recession deeper during the first half of the year than anticipated. In addition, the combination of continued tight monetary policy and large federal deficits (with budget policies currently in place) raises the possibility of persistently high real interest rates over the 1983-1985 period and creates doubts whether the recovery will be sustained. These doubts are given force by the especially weak performance of investment spending recently despite last year's business tax cuts; the hoped-for stimulus appears to have been nullified by high real interest rates and record economic slack.

Most economic forecasters project a moderate upswing in output and employment during the next two to three years, along with further progress in reducing inflation. Underlying this outlook, however, is much more uncertainty than the similarity of forecasts might suggest. The major question is the outlook for credit conditions, which is affected by monetary policy, and by expectations about future inflation and credit demands. Short-term interest rates have fallen dramatically in recent weeks. More modest, though substantial, declines have been recorded in long-term bond rates as well. To the extent that the decline in rates reflects weakness in private credit demands, the near-term economic outlook may be less robust than anticipated. On the other hand, many believe that the decline in rates reflects a change in monetary policy. An easier monetary policy could boost output and employment and help restore business liquidity, thereby preventing a further spread of business failures. But such a policy could lead investors to expect higher inflation in the future, thus putting upward pressure on long-term rates and choking off longer-run growth.

RECENT ECONOMIC DEVELOPMENTS

As measured by constant dollar gross national product (GNP), the decline in economic activity during the past year exceeded the average decline in postwar recessions. Moreover, the decline in real GNP understates the depths of the current slump because there was a large amount of slack in the economy before the recession began. An upsurge in interest rates aborted the recovery from the 1980 recession when it was only a year old. As a result, the economy has grown very little since the end of 1979, and economic slack in the second quarter of 1982 reached the highest levels of the post-World War II period: unemployment was at a record 9.8 percent in July, and capacity utilization in manufacturing was less than 70 percent in July, near its previous lowest point.

Unemployment is now widespread, and is particularly high for certain groups of workers. The combination of recession and longer-run structural problems has produced severe economic distress for industries such as steel and automobiles and for some areas of the country, especially the industrial Midwest. Recession, combined with high interest rates, has aggravated problems in housing and agriculture.

Last February when the CBO published its forecast prior to the first budget resolution for fiscal year 1983, it anticipated that the decline in economic activity would be somewhat less than in the average recession and would end in the spring. Recent GNP data show that the decline was deeper than the CBO had projected and, as a result, unemployment rose higher than expected. As Table 1 shows, GNP turned up in the second quarter, but only because of a reduction in the rate of inventory liquidation; real final sales, which declined through the second quarter, were weaker than expected. Most of the unanticipated weakness in final sales in the second quarter can be traced to consumer spending.

The decline in inflation since the beginning of the year has been larger than expected, partly because of the depth of the recession. For the first six months of 1982, the inflation rate as measured by the implicit price deflator for GNP was about two percentage points lower than projected last February. The sharp reduction in inflation from 8.9 percent during the second half of 1981 to 4.6 percent during the first half of 1982 reflected:

- Very weak commodity prices, particularly for gasoline and crude oil;

- Sluggish final demands;

TABLE 1. MAJOR ECONOMIC INDICATORS

				1981			1982	
	1979	1980	1981	Q2	Q3	Q4	Q1	Q2
			Levels (billions of 1972 dollars)					
GNP	1479.4	1474.0	1502.6	1502.2	1510.4	1490.1	1470.7	1475.3
Final Sales	1472.2	1479.0	1493.7	1490.1	1493.9	1485.3	1486.1	1480.6
Inventory Change	7.3	-5.0	9.0	12.1	16.5	4.8	-15.4	-5.3
Disposable Income	1015.7	1018.0	1043.1	1036.6	1048.8	1051.9	1046.9	1056.1
			Rates of Change (percent change at annual rates)					
GNP	2.8	-0.4	1.9	-1.5	2.2	-5.3	-5.1	1.3
Consumption	2.7	0.3	1.8	-2.7	2.9	-3.3	2.5	2.0
Business Fixed Investment	7.3	-2.2	3.5	1.1	9.3	0.6	-5.0	-12.3
Residential Investment	-5.2	-20.2	-4.8	-17.4	-31.9	-25.3	-10.2	11.5
Federal Purchases	1.8	4.2	3.7	-3.2	14.8	20.4	-5.5	-15.0
Defense	2.6	4.0	4.9	11.5	7.6	10.1	-7.9	17.7
Nondefense	0.3	4.6	1.3	-27.4	31.6	43.6	-0.9	-57.2
State and Local Purchases	1.1	1.1	-0.8	-4.6	-2.7	-0.8	-1.1	0.0
Exports	15.4	8.9	-0.4	1.0	-4.7	-2.4	-12.7	6.4
Imports	6.1	-0.4	7.2	16.8	11.3	6.0	-17.5	13.0
GNP Deflator	8.6	9.3	9.4	6.8	9.0	8.8	4.3	4.9
CPI - Urban Consumers	11.3	13.5	10.3	7.8	11.8	7.7	3.2	4.6
Industrial Production	4.4	-3.6	2.7	1.9	1.3	-16.4	-11.7	-7.1
			Averages (percent)					
Unemployment Rate	5.8	7.1	7.6	7.4	7.4	8.4	8.8	9.5
3-Month Treasury Bill Rate	10.1	11.4	14.0	14.9	15.1	11.8	12.8	12.4
Capacity Utilization Rate	85.5	79.1	78.5	79.8	79.3	74.8	71.6	70.3
Personal Saving Rate	5.9	5.8	6.4	6.1	6.5	7.5	6.6	6.9

SOURCES: U.S. Department of Commerce, Bureau of Economic Analysis; U.S. Department of Labor, Bureau of Labor Statistics; Federal Reserve Board.

- The rise and continued strength of the dollar in foreign exchange markets--in response to relatively high U.S. interest rates--that held down the cost of imported goods; and
- Lower wage demands, including some reopening of wage contracts, largely as a result of record unemployment rates.

The most unexpected development in the first half of 1982 was the persistence of extremely high interest rates (see Table 2). Interest rates declined quite sharply in the first months of the recession but rose again in the fall and winter. Many interest rates were higher in the first six months of 1982 than in the fourth quarter of last year, despite the deepening recession and the decline in inflation. Figure 1 shows that real interest

TABLE 2. FINANCIAL INDICATORS

	1979	1980	1981	1981				1982	
				Q1	Q2	Q3	Q4	Q1	Q2
Monetary Growth (percent, annual rates)									
M1	7.7	6.3	7.0	4.3	9.6	0.2	5.9	10.8	3.2
M2	8.5	8.3	9.8	7.7	12.6	8.6	9.2	10.1	9.7
Total reserves [a]	1.6	5.8	6.5	5.6	4.2	4.0	3.2	8.3	2.1
Interest Rates (percent)									
3-month Treasury bill	10.1	11.4	14.0	14.4	14.9	15.1	11.8	12.8	12.4
20-year government bond	9.3	11.4	13.7	12.7	13.5	14.5	14.1	14.3	13.7
Moody's AAA	9.6	11.9	14.2	13.2	14.0	14.9	14.6	15.0	14.5
Mortgage rate [b]	10.9	12.8	14.9	13.9	14.6	15.4	16.1	15.7	15.9
Treasury Borrowing									
Billions of dollars	37.4	79.2	87.4	128.9	43.4	56.3	120.9	120.0	N/A
Absorption rate [c]	9.5	22.2	22.6	30.9	10.4	15.2	35.0	29.5	N/A

SOURCES: Federal Reserve Board; Federal Home Loan Bank Board.

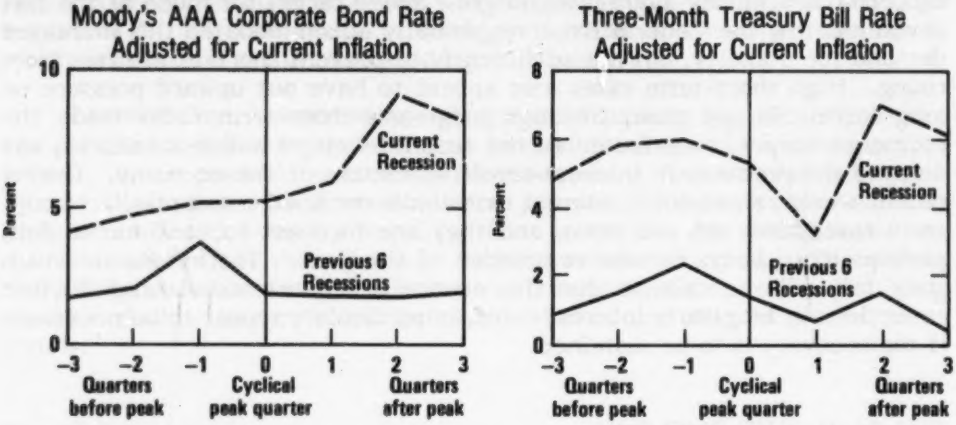
[a] At Federal Reserve member banks.

[b] Effective conventional mortgage rate, all homes, combined lenders.

[c] Percent of all funds raised by nonfinancial institutions, private and public.

Figure 1.

Interest Rates in Recessions, Adjusted for Inflation



Moody's AAA Corporate Bond Rate Adjusted for Current Inflation

Three-Month Treasury Bill Rate Adjusted for Current Inflation

NOTE: Adjustment for current inflation uses a measure of underlying inflation based on the CPI for the current quarter.

SOURCES: Federal Reserve Board; Bureau of Labor Statistics.

rates have been considerably higher during the current recession than the average for earlier recessionary periods. In fact, during the first half of 1982, interest rates adjusted for current inflation reached their highest levels since 1932.

No completely satisfactory explanation exists for the behavior of interest rates in the past year. The persistence of exceedingly high long-term rates is generally attributed to investors' fear that inflation and/or high federal deficits would place upward pressure on rates in years to come. The volatility of interest rates is also thought to have increased the uncertainty premium in long-term rates. The high short-term rates that prevailed until very recently are not so easily explained, because declining inflation and a recession are usually associated with declining interest rates. One reason for high short-term rates in the first half of 1982 was the unusual strength of the demand for money, which was partly responsible for money growth above Federal Reserve targets. Apparently, much of the growth in M1 money reflected a desire to increase liquid balances for precautionary purposes--money to hold, not to spend--despite higher yields on other liquid assets, such as money market mutual funds.[1] By permitting money aggregates to grow above target for much of the last seven months, the Federal Reserve partially accommodated this increased demand for liquidity, but not sufficiently to prevent short-term rates from rising. High short-term rates also appear to have put upward pressure on long rates. In any case, the high long- and short-term rates made the recession deeper, contributed to the record levels of business failures, and delayed the recovery in interest-sensitive sectors of the economy. During recent weeks, short-term interest rates have declined substantially. Long-term rates have started down, and they are forecast to continue to fall, perhaps irregularly, for the remainder of the year. The extent to which they fall will be critical for the economy because substantial further reductions in long-term interest rates, in particular, appear to be necessary if the recovery is to be sustained.

THE ECONOMIC OUTLOOK

The recession appears to have bottomed out, but as yet it is not clear that the recovery has begun; the latest data on economic activity give mixed signals. On the positive side, real GNP rose by 1.3 percent at an annual rate in the second quarter, owing to a slowdown in the rate of inventory liquidation, and the Commerce Department's index of leading indicators rose between the first and the second quarters, usually a sign of imminent upturn. Real consumer spending and residential construction were up, and durable goods orders began to increase in July--all positive signs for future output. Unemployment insurance claims have also declined for two months. Another promising sign is the dramatic decline in short-term interest rates, and the more modest but still significant fall in bond rates in the first half of August.

On the negative side, industrial production in manufacturing fell 5.3 percent (at an annual rate) in the second quarter, in sharp contrast to the rise in GNP. The decline in business investment accelerated in the second quarter, and continued weak orders for capital goods (despite an increase in

---

[1] M1, the most widely watched monetary aggregate, consists mainly of currency in circulation plus travelers' checks plus checkable deposits at commercial banks and thrift institutions.

July) suggest that excess capacity and high real interest rates will have an adverse effect on business investment for several more months. The backlog of unfilled orders has not yet started to increase. Auto sales were very depressed in June and July. A flagging consumer sector was also suggested by the University of Michigan's index of consumer sentiment, which declined for a third consecutive month in July.

Nevertheless, consumer spending should turn up significantly in the months ahead, following a 3 percent (annual rate) rise in real disposable income in the second quarter and another sharp rise in real disposable income this quarter as a result of the personal income tax cut and the increase in Social Security benefits. (Tax incentives for saving, however, may partially offset the effects of higher consumer income.) The recent sharp drop in interest rates will also contribute to the recovery, providing that the decline in short-term rates is sustained and that long-term rates follow.

The CBO Forecast

The revised CBO forecast, shown in Table 3, shows moderate growth in economic activity during the second half of this year and next year and continued moderation of inflation:

o From the fourth quarter of 1981 to the fourth quarter of this year, real GNP is projected to increase between -0.3 and +1.7 percent. During 1983 real output is expected to increase between 2.7 and 4.7 percent.

o Unemployment should begin a gradual decline later this year, resulting in an average annual unemployment rate of 8.8 to 9.8 percent this year and 8.8 to 9.3 percent in 1983.

o Inflation, as measured by the GNP deflator, is expected to accelerate from the very low 4.6 percent rate in the first half of this year to about 7 percent in the second half, measured at annual rates. Two of the factors accounting for this rise in the second half of 1982 are the concentration of federal pay raises in the fourth quarter of the year and the recent increases in oil prices. Next year the inflation rate is expected to decline to the 5.3 to 7.3 percent range on a fourth-quarter-to-fourth-quarter basis.

o Both long- and short-term interest rates are projected to trend down during the forecast period, although short-term rates are

TABLE 3. THE CBO FORECAST

Economic Variables	Actual 1981	Projected 1982	Projected 1983
		Fourth Quarter to Fourth Quarter (percent change)	
Nominal GNP	9.6	4.7 to 8.7	8.3 to 12.3
Real GNP	0.7	-0.3 to 1.7	2.7 to 4.7
GNP Implicit Price Deflator	8.9	4.9 to 6.9	5.3 to 7.3
		Calendar Year Average (percent)	
Unemployment Rate	7.6	8.8 to 9.8	8.3 to 9.3
3-Month Treasury Bill Rate	14.0	10.0 to 12.0	9.3 to 11.3

NOTE: Projections are based on preliminary GNP figures for the second quarter of 1982.

expected to move up temporarily in 1983 as the recovery progresses. The CBO forecasts an average annual rate for three-month Treasury bills of 10 to 12 percent this year and 9.3 to 11.3 percent in 1983.

The revised CBO forecast is based upon the following fiscal and monetary policy assumptions:

- The tax and spending policies of the first budget resolution for fiscal year 1983 are assumed to be carried out. Outlays, on a unified budget basis, are assumed to total $788 billion in fiscal year 1983, an increase of 7.5 percent over fiscal year 1982.
- M1 is assumed to grow at the upper end of the Federal Reserve's target range of 5.5 percent through 1983.

In addition, the forecast includes the following assumptions directly affecting inflation: that food prices will rise about 5 percent in 1982 and 6½ percent next year, and that world oil prices will show no significant change through 1983.

The economic recovery projected to begin in the second half of this year will result from:

- The current low level of inventories.
- Reductions in personal income taxes and increases in Social Security benefits in July 1982 and July 1983, which provide a considerable boost to real disposable income and personal consumption expenditures, and cuts in business taxes, which encourage business investment.
- A decline in interest rates that is expected to release pent-up consumer and business demands for interest-sensitive durable goods. Reduced consumer debt burdens suggest that the rebound in consumer spending could be sizable.

The economic recovery will be characterized by a pickup in consumer expenditures, particularly for durable goods; a further increase in residential construction, though the level will remain very depressed; and an end to the inventory liquidation before year-end. Continued rapid growth in defense purchases will also contribute to the recovery. Business investment spending is expected to continue to decline for the remainder of this year, followed by an upturn during 1983. The CBO does not, however, foresee an easing of credit conditions sufficient to permit a full recovery in residential construction or in business investment during the forecast period.

Uncertainty in the Forecast

At present, the major source of uncertainty appears to be the behavior of interest rates.

Short-Term Rates. Although the sizable short-term interest rate declines in recent weeks are widely viewed as a positive sign, they do not in themselves guarantee a robust recovery during the next few months. To the extent that the reduced rates reflect either a reversal of the recent increase in money demand or an easier Federal Reserve policy, or both, lower real interest rates will prevail and strengthen the rebound from the current recesssion. On the other hand, if the interest rate declines merely reflect financial market perceptions that the recovery will be weaker than previously anticipated, there is less reason for optimism. Unfortunately, it is still too early to tell which of these alternative explanations of recent interest rate declines is correct. In addition, there is no way to predict whether the demand for money will weaken in the months ahead, thereby permitting lower interest rates consistent with the Federal Reserve's current money aggregate targets. Moreover, the future course of monetary policy itself is not altogether clear.

Long-Term Rates. The outlook for long-term rates depends on whether present trends in inflation, together with the recently enacted budget measures, will convince the financial markets that inflation will continue to decrease in coming years. A decline in long rates, in real terms, would greatly improve the prospects for a recovery in residential construction and business investment, and for sustained economic growth.

THE BUDGET OUTLOOK

The CBO baseline economic assumptions through 1985 are compared with the economic assumptions of the first resolution for fiscal year 1983 in Table 4. The revised CBO assumptions show lower inflation and lower levels of real GNP, both of which significantly lower the tax base. The lower inflation in the assumptions reflects recent experience. Real GNP was revised down partly because the historical GNP data now show a deeper recession than anticipated, but also because projected growth rates have been reduced somewhat. These differences in economic assumptions have significant consequences for budget estimates.

It now appears that fiscal year 1982 revenues will be about $621 billion, or $7 billion below the estimate of the revised second budget resolution for 1982. Outlays will be close to the resolution level of $734 billion. Primarily because of lower revenues, the budget deficit for 1982 will exceed the resolution target of $106 billion by about $6 billion dollars.

Budget projections for fiscal year 1983 show that the lower revenue base in 1982 together with the revision in the economic forecast for 1983 result in large budget reestimates, particularly for revenues (see Table 5). The impact of the CBO forecast on outlays is smaller, as the effects of lower inflation offset to some extent the effects of higher unemployment and interest rates. The net effect of these changed economic assumptions is to add about $28 billion to the 1983 budget deficit, almost all of it on the revenue side. CBO's technical reestimates, mostly on the outlay side, amount to $19 billion in fiscal year 1983. As a result, the projected deficit for fiscal year 1983 is $155 billion.

TABLE 4. SUMMARY COMPARISON OF ECONOMIC ASSUMPTIONS (By calendar year)

Economic Variable	1982	1983	1984	1985
Real GNP (percent change, year over year)				
First budget resolution	-0.9	4.5	4.1	3.7
Revised CBO	-1.3	3.6	3.7	3.7
GNP Deflator (percent change, year over year)				
First budget resolution	7.4	7.3	6.6	6.0
Revised CBO	6.6	6.4	6.1	5.6
Unemployment Rate (percent, annual average)				
First budget resolution	9.1	8.4	7.6	7.2
Revised CBO	9.3	8.8	8.2	7.8
3-Month Treasury Bills (percent, annual average)				
First budget resolution	12.0	10.7	8.8	6.9
Revised CBO	11.0	10.3	10.0	8.9

SOURCES: Conference report on the First Concurrent Resolution on the Budget--Fiscal Year 1983 (accompanying S. Con. Res. 92, reported June 18, 1982); Congressional Budget Office.

For the longer run, the CBO outlook also implies higher budget deficits than projected for the first budget resolution for 1983. The principal reason is lower revenues resulting from the lower real GNP and lower inflation that are now assumed. Technical reestimates on both the revenue and outlay sides are also large. The net result is that deficits are projected to remain in the $150 to $160 billion range through 1985, given the policies of the first resolution. These deficit projections are between $50 and $100 billion larger than the first budget resolution targets.

TABLE 5. CBO BUDGET REESTIMATES (By fiscal years in billions of dollars)

	1982	1983	1984	1985
Revenues				
First budget resolution	628	666	738	821
Changes due to:				
Economic assumptions		-26	-37	-44
Congressional action		-2	2	2
Technical reestimates		-5	-11	-22
CBO projection	621	633	692	757
Outlays				
First budget resolution	734	770	822	881
changes due to:				
Economic assumptions		2	9	13
Congressional action		2	a	a
Technical reestimates		14	14	14
CBO projection	733	788	844	910
Deficit (-)				
First budget resolution	-106	-104	-84	-60
Changes due to:				
Economic assumptions		-28	-46	-57
Congressional action		-4	2	2
Technical reestimates		-19	-25	-36
CBO projection	-112	-155	-152	-152

SOURCES: Conference report on the First Concurrent Resolution on the Budget--Fiscal Year 1983 (accompanying S. Con. Res. 92, reported June 18, 1982); Congressional Budget Office.

[a] Less than $500 million.

About two-thirds of the difference between the current CBO budget deficit projections and the first budget resolution targets for fiscal years 1983 through 1985 can be attributed to revised economic assumptions. These revisions account for about three-quarters of the revenue reestimates and about one-third of the outlay reestimates.

The economic and budget outlook is subject to a great deal of uncertainty. The economy could recover more rapidly than projected by the CBO because of easier credit conditions. Lower interest rates could provide a large boost to residential construction, business investment, and other interest-sensitive durable goods. Under this scenario, real output could expand more rapidly than the CBO now projects. As a result, revenues would be higher and outlays somewhat lower. On the other hand, if interest rates return to the high levels of earlier this year, the projected economic recovery will be severely limited. This low-growth scenario would result in even lower revenues, higher outlays, and significantly higher deficits.

CONCLUSION

The CBO still expects a recovery in the second half of this year and continued reduction of inflationary pressures. Recent economic trends imply more moderate growth and a lower rate of inflation than foreseen last February. Coupled with the depth of the current recession, both of these changes in the economic outlook lead to larger estimates of budget deficits.

The federal budget is very sensitive to changes in economic conditions. At best, budget deficits will continue to be a problem for the foreseeable future, even with the tax changes and spending reductions assumed in the first budget resolution. Further tax changes and additional spending reductions may be required to achieve the longer-run deficit targets that the resolution specified.

blank page

CHAPTER II. RECENT ECONOMIC DEVELOPMENTS

The effects of highly restrictive credit conditions have dominated recent economic developments both here and abroad. Exceptionally high interest rates aborted the recovery from the 1980 recession and plunged the U.S. economy back into recession beginning in the summer of 1981. The persistence of high interest rates since then has produced a slump that was worse than expected and, by some measures, the deepest in U.S. postwar history. Other countries, too, are suffering severe recessions, in part because they have tried to keep their interest rates competitive with U.S. rates.

In the United States, the gap between actual real GNP and potential real GNP--the level of real GNP that would have prevailed under conditions of full employment--currently stands at about 9.6 percent of potential real GNP.[1] This rate is substantially larger than the previous postwar record gap of 7.7 percent posted in the 1974-1975 recession, and larger still than the 5.8 percent gap in the average postwar recession. The counterpart of this historically high rate of underutilized resources is an unemployment rate that reached a postwar high of 9.8 percent in July. Real GNP in mid-1982 is almost the same as it was in early 1979.

Inflation has recently declined significantly in response to the persistence of economic slack in the last three years. The Consumer Price Index (CPI), which grew 9.6 percent in 1981, decelerated dramatically in the first half of 1982. While much of this decline resulted from special factors that are likely to be reversed, there has clearly been a lessening in the underlying rate of inflation: wages, which account for about two-thirds of production costs, slowed from about a 9 percent annual rate of increase in 1981 to about 6 percent in the first half of 1982. The relationship between the reduction in underlying inflation and the loss of real GNP has been similar to that predicted by traditional economic models.[2]

---

[1] The method of calculating potential GNP is open to question, but reasonable downward revisions in the recent growth of potential GNP do not alter the conclusion that the economy is currently operating at levels of unused resources unprecedented in postwar history.

The economy is currently at or near the trough of the recession. Although the CBO anticipates a recovery beginning in the second half of the year, there are as yet no clear-cut signs that it has begun. Real GNP grew 1.3 percent at an annual rate in the second quarter, but this increase was entirely due to a reduction in the rate of inventory liquidation; final sales continued to fall in that quarter. While the index of leading indicators rose in April and May, suggesting an impending recovery, it remained flat in June. The latest available data show that industrial production has continued downward, though the rate of decline has slackened.

This chapter describes the current recession, with particular emphasis on the new evidence since the last CBO forecast.[3] It concludes that in broad outline the recession is not greatly different from what the CBO and other forecasters expected earlier this year. Relative to the earlier forecast, however, inflation has turned out lower, and interest rates higher, than anticipated. Output was also lower, both because recent historical figures were revised downward by the Department of Commerce and because the inventory correction was larger than anticipated. Slower growth has led to higher unemployment.

---

[2] Using a variety of econometric evidence, the late Arthur Okun four years ago concluded that a sacrifice of 10 percent of a year's GNP is required to achieve a permanent one-percentage-point reduction in the inflation rate. A more optimistic recent assessment by R. J. Gordon and S. R. King found that the required output sacrifice was about half that estimated by Okun. The cumulative loss in GNP since 1979, relative to a potential growth rate of just under 3 percent, has been about 15 percent of a year's GNP: this GNP loss has been associated with a reduction in underlying inflation of about two percentage points in the last two years. This is about halfway between the two quoted estimates. See Arthur Okun, "Efficient Disinflationary Policies," American Economic Review, vol. 68, no. 2 (1978), and Robert J. Gordon and Stephen R. King, "The Output Cost of Disinflation in Traditional and Vector-Autoregressive Models," Brookings Papers on Economic Activity, 1982:1, pp. 205-44.

[3] For details of CBO's last forecast, see Congressional Budget Office, The Prospects for Economic Recovery (February 1982).

THE CURRENT RECESSION

Between the third quarter of 1981, when the current recession began, and the second quarter of 1982, real GNP declined by $35.1 billion. Most of this decline was accounted for by a $21.8 billion drop in inventory accumulation; final sales fell by only $13.3 billion over this period. The drop in final sales was largely concentrated in real investment and real net exports (see Table 6 and Figure 2):

- Real consumption rose by $2.4 billion. However, purchases of domestic automobiles fell by $1.7 billion, despite rebates and low-interest financing offered by the auto companies.
- Real housing investment declined by $3.0 billion. Housing starts were about 20 percent down from year-earlier levels. By some measures, the current housing recession is the worst in the past 30 years. Housing starts have remained below 1 million units for almost a full year--much longer than in any other postwar recession.
- Business fixed investment fell by $7.5 billion. This was more than accounted for by the $8.8 billion drop in producers' durable equipment. The structures component, supported by continuing investment in construction of office buildings—many started before the recession—rose by $1.3 billion.
- Real net exports dropped by $3.5 billion. The reduction in imports caused by the recession at home and the drop in oil imports was more than offset by the reduction in exports as a result of the severe recession abroad and the strength of the dollar.
- Real federal government purchases of goods and services fell by $0.9 billion, despite somewhat higher defense purchases. If the highly volatile agricultural price support programs are excluded, real federal government purchases rose $1.4 billion. Manufacturers' unfilled orders for defense products have risen by 18 percent in current prices since the third quarter of last year; this corresponds to about a 10 percent real increase.

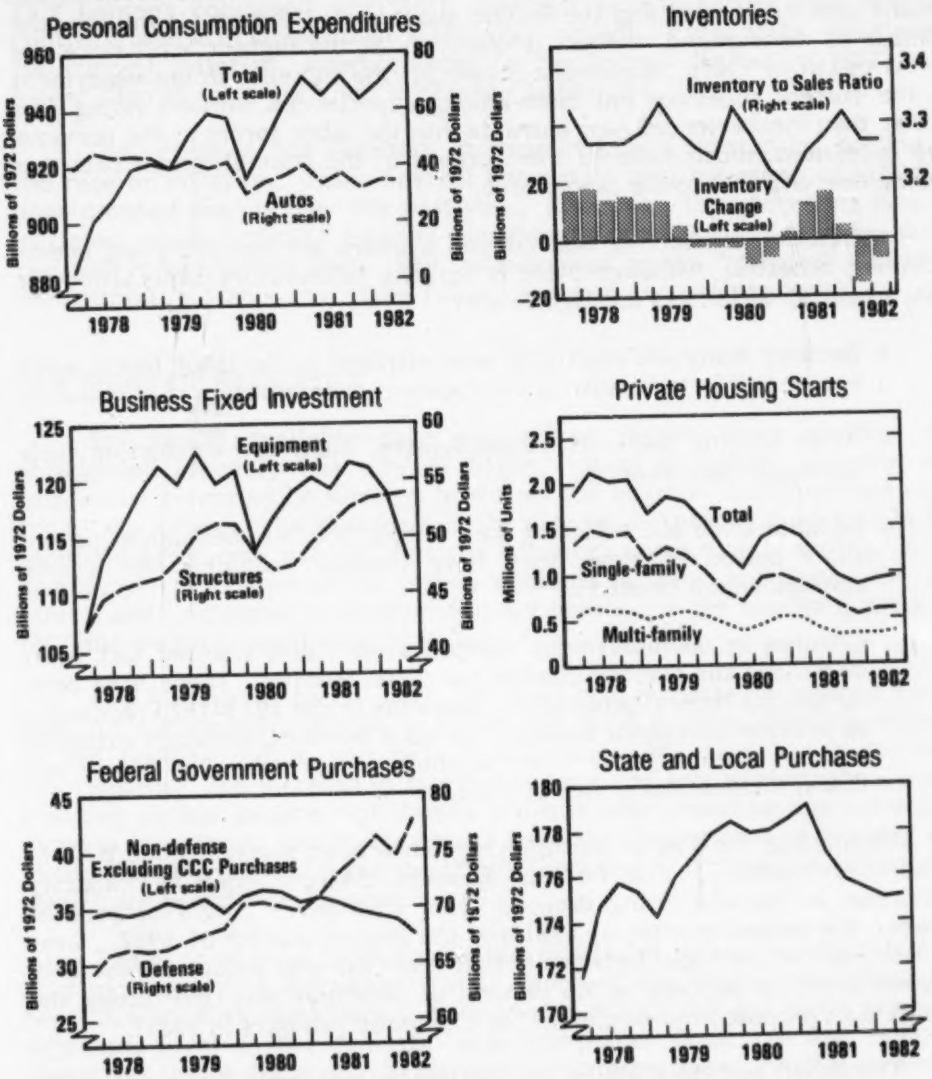
The reduction in economic activity, precipitated largely by extremely high real rates of interest, has worked to increase unemployment and reduce inflation. It has pushed up unemployment by more than two percentage points, from 7.4 percent in the second quarter of 1981 (just before the recession began) to 9.8 percent in July of this year. Even this large increase understates the extent to which the unemployment problem

TABLE 6. INDICATORS OF ECONOMIC ACTIVITY (Percent change from previous quarter at seasonally adjusted annual rates, unless otherwise noted)

	1981:1	1981:2	1981:3	1981:4	1982:1	1982:2
Real GNP	7.9	-1.5	2.2	-5.3	-5.1	1.3
Final sales	5.4	-4.0	1.0	-2.3	0.2	-1.5
Personal consumption expenditures	4.4	-2.7	2.9	-3.3	2.5	2.0
Durable goods	17.8	-17.2	10.7	-20.9	10.4	1.7
New autos	56.7	-57.0	60.1	-46.6	49.3	-2.2
Nondurable goods	2.9	0.1	1.5	0.0	-1.0	2.7
Services	1.5	0.1	1.7	0.0	3.0	1.5
Fixed investment	6.4	-3.4	-1.0	-5.0	-6.0	-8.2
Nonresidential	8.0	1.1	9.3	0.6	-5.0	-12.3
Structures	18.5	12.4	12.6	5.9	1.3	2.5
Producers' durable equipment	4.1	-3.3	7.8	-1.7	-7.6	-18.5
Residential	1.0	-17.4	-31.9	-25.3	-10.2	11.5
Government purchases	5.2	-4.1	3.6	7.0	-2.9	-6.2
Federal	12.2	-3.2	14.8	20.4	-5.5	-15.0
Defense	8.0	11.5	7.6	10.1	-7.9	17.7
Nondefense	20.7	-27.4	31.6	43.6	-0.9	-57.4
State and local	1.3	-4.6	-2.7	-0.8	-1.1	0.0
Net exports (billions of 1972 dollars)	48.2	44.2	39.2	36.5	36.9	35.7
Change in business inventories (billions of 1972 dollars)	2.4	12.1	16.5	4.8	-15.4	-5.3
Real Disposable Personal Income	3.7	0.6	4.8	1.2	-1.9	3.6
Saving Rate (percent)	5.4	6.1	6.5	7.5	6.6	6.9
Industrial Production Manufacturing	7.5	2.9	0.3	-18.3	-13.6	-5.3
Unemployment Rate (percent)	7.4	7.4	7.4	8.4	8.8	9.5

SOURCES: U.S. Department of Commerce, Bureau of Economic Analysis; Federal Reserve Board; and U.S. Department of Labor, Bureau of Labor Statistics.

Figure 2.
Economic Indicators



SOURCES: U.S. Department of Commerce, Bureaus of Economic Analysis and the Census.

has worsened. The number of discouraged workers (defined as "persons who report that they want to work but are not looking for jobs because they believe they cannot find any") swelled by more than 400,000 between the second quarter of 1981 and the second quarter of 1982; at 1.5 million, the number of discouraged workers is currently at the highest level since the series began in 1967. Moreover, almost all the increase in unemployment in the current recession has been among experienced workers losing jobs rather than inexperienced new entrants into the labor force; in the previous two recessions, much more of the increase in the unemployment rate was among new entrants to the labor force.

Increasing numbers of unemployed workers are not receiving unemployment benefits. Although there is no fully satisfactory explanation for this, a number of factors are significant:

- o Because many are relatively new entrants to the labor force, some are ineligible to receive unemployment compensation.
- o After lengthy spells of unemployment, many are exhausting their unemployment benefits.
- o Because some are suffering their second bout of unemployment in a short period of time, they have become ineligible to receive unemployment benefits.
- o Changes in unemployment compensation rules, enacted last year, decreased the number eligible for state benefits. There have been no special federal programs in place (as in the 1973-1975 recession) to provide additional benefits for such workers, although extended benefits are available from September under the Tax Equity and Fiscal Responsibility Act of 1982.

Paralleling the rise in unemployment has been a marked decrease in capacity utilization. The Federal Reserve Board's index of capacity utilization in manufacturing dropped from 79.8 percent to 70.2 percent between the second quarter of 1981 and the second quarter of 1982. Over the same period, the gap between actual real GNP and potential real GNP widened from 5.4 percent to 9.6 percent of potential real GNP (using the calculations proposed by the Council of Economic Advisers in 1981).

The depth and duration of the decline in economic activity can be attributed to the high levels of interest rates during the past year. As late as the second quarter of 1982, the three-month Treasury bill rate averaged 12.4 percent, only 2½ percentage points below its average in the second quarter of 1981. Long-term rates rose over the period: the AAA corporate bond rate averaged 14.6 percent in the second quarter of 1982 compared with 14 percent a year earlier. Mortgage rates were still higher: 15.3 percent compared with 14.1 percent a year earlier (the average contract rate on conventional mortgages closed). Even after adjustment for current inflation, interest rates in the second quarter of 1982 were higher than at any time since 1932 (see Chapter III).

The recession has resulted, as expected, in a substantial decline in the rate of inflation. Table Several commonly used measures of inflation have dropped sharply over the past year. Moreover, the underlying rate of inflation, which typically exhibits considerable inertia, has fallen by about two percentage points since 1980, as measured by the "stripped" CPI-U or normalized unit labor costs (see Table 7 for data and explanations).

FEW SIGNS OF RECOVERY

The latest available data give mixed signals about whether the anticipated recovery has already begun. Real consumer spending and residential construction were up in the second quarter--both positive signs for future output. The slowdown in the rate of inventory liquidation in the second quarter may suggest that the inventory correction is ending. Also, unemployment compensation claims declined in June and July. On the other hand, industrial production fell 6.9 percent in the second quarter of 1982 and declined again slightly in July.

One promising recent sign has been the increase in housing starts from 0.9 million units in June to 1.2 million units in July. Greater activity in the housing sector will help to increase GNP growth and increase employment. The increase in starts, however, reflects exclusively groundbreaking on low-income multifamily projects which must be started before October in order to qualify for grants from the Department of Housing and Urban Development. As yet the housing industry is showing no sign of any significant broad-based recovery.

Retail sales have been moving erratically for several months, showing no clear upward or downward trend. Much of the erratic movement has been due to auto sales, which have swung sharply up and down around a depressed level as the domestic auto companies instituted and removed incentives in the form of rebates and low-interest loans. Although actual stocks of auto inventories were inordinately low at the end of July, they remained extremely high relative to sales. This accounts in part for the reintroduction of buying incentives and plans for further production cutbacks in August and September. Judging by the significant, if temporary,

TABLE 7. INDICATORS OF PRICE AND WAGE INFLATION (Percent change from same quarter a year earlier)

	1979:2	1980:2	1981:2	1982:2
CPI-U [a]	10.6	14.4	9.8	6.8
"Stripped" CPI-U [b]	7.4	9.4	8.4	7.2
Consumption Deflator	8.7	10.3	8.8	5.7
Producer Price Index for Finished Goods	10.2	13.7	11.5	3.2
GNP Fixed-Weight Price Index	9.5	9.8	9.8	6.6
Average Hourly Earnings Index [c]	7.9	9.0	9.3	7.1
Unit Labor Costs [c]	10.8	12.3	7.1	8.3
Normalized Unit Labor Costs [c d]	8.4	10.3	9.2	8.2

SOURCES: U.S. Department of Labor, Bureau of Labor Statistics; U.S. Department of Commerce, Bureau of Economic Analysis; Congressional Budget Office.

[a] Consumer Price Index for all urban consumers.

[b] CPI-U less food at home, energy, homeownership, and used cars.

[c] Nonfarm business sector.

[d] Adjusted for cyclical variations in productivity and the effect on wages of some cyclical movements in employment and overtime.

success of General Motors' low-interest loan program earlier this year, the recent reductions in interest rates could lift the prospects for retail auto sales substantially in the coming months.

Other retail sales remain weak. Despite a slight increase in July, sales excluding automotive dealers remained below the May level, even in dollar terms. Advance information on orders for household durable goods industries confirms the general picture of a weak consumer sector in July, despite the personal tax cut: new orders, shipments, and the order backlog all declined in July.

The most positive sign of recovery is the 3.6 percent (annual rate) rise in real disposable income in the second quarter. This is expected to be followed by a sharp increase in the third quarter as a result of the personal income tax cut and the Social Security benefit increase, suggesting that consumer spending could turn up significantly in the months ahead. The prospective increase in consumer spending could be dampened, however, by high interest rates and by the tax incentives for saving enacted in 1981.

A promising sign is the recent dramatic decline in short-term interest rates: the three-month Treasury bill rate fell from 13.3 percent at the beginning of July to 8 percent in mid-August. Lower short rates would cut the cost of carrying inventories, which could help bring an earlier end to inventory liquidation. Long-term rates, too, dropped one percentage point in the first half of August. If the decline in long-term rates (corporate securities and mortgages) continues, it could help stimulate a revival of business fixed investment and housing. It is too soon, however, to see any effects from these recent interest rate reductions.

AN ATYPICAL INVENTORY CYCLE

Unlike the last recession (1980), but like most other postwar recessions, the current one has been dominated by movements in inventories. Almost two-thirds of the $35.1 billion reduction in real GNP between the third quarter of 1981 and the second quarter of 1982 (expressed at an annual rate), was accounted for by the swing in the rate of inventory accumulation. Although it is typical of most postwar recessions that inventory change accounts for much of the real GNP loss, the reasons for the current swing differ from those of the past.

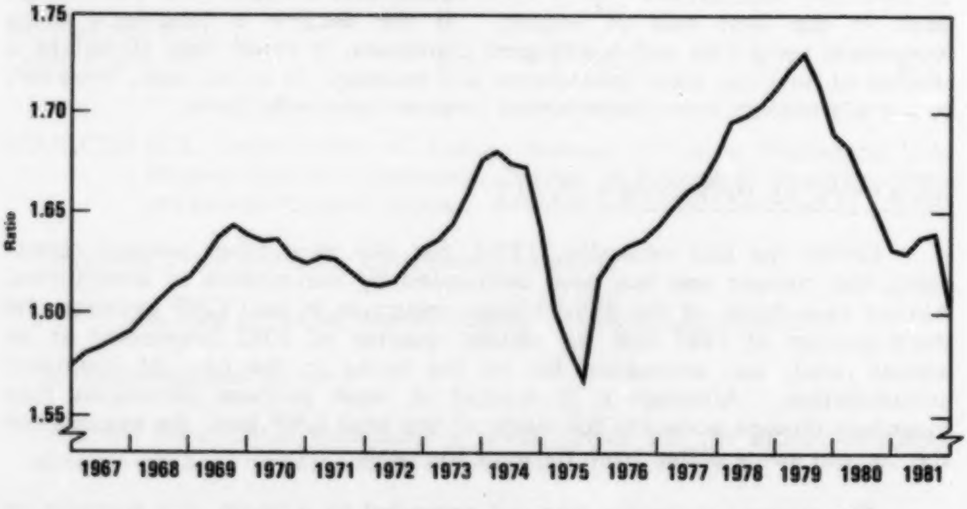
The current recession was not preceded by a boom or a speculative buildup of inventories. In the first half of 1981, the economy was just beginning to recover from the 1980 recession, so that production and capacity utilization were far from peak levels. By all accounts, inventories were lean; relative to the trend of sales growth, manufacturing and trade inventories were at very low levels in the first half of 1981 (see Figure 3). But high interest rates checked the growth in final sales, and inventories began to build rapidly in the second quarter of 1981. Although still not high in an absolute sense, they became high relative to sales. Moreover, an upsurge in real interest rates greatly increased the cost of carrying inventories, so that desired inventory levels fell below those of past recessions. Thus there were strong incentives for the inventory correction of the past year.

In general terms, the outline of this inventory cycle was visible at the end of 1981 and was incorporated into the CBO forecast published last February. The inventory correction was larger than expected, however. There were two main reasons for the underestimate:

- Real interest rates, and hence inventory carrying costs, remained higher than expected.

Figure 3.

Inventories Relative to Trend Sales



NOTE: Figure shows the ratio of manufacturing and trade inventories to trend sales, both in 1972 dollars. Quarterly data. Last quarter shown is 1982:1.

SOURCE: U.S. Department of Commerce.

- The effect of continued high interest rates on other interest-sensitive sectors, particularly durable goods consumption, investment in producers' durable goods, and residential construction, was greater than expected. Reductions in income and employment growth in these sectors spread the recession to other parts of the economy. Slower growth in sales led to a reduced need for inventories.

REDUCTION IN INFLATION

The inflation rate, measured in several different ways, is currently below what the CBO and others expected at the beginning of the year. The Consumer Price Index and the consumption deflator have both shown about 2½ percentage points less inflation (at annual rates) over the past half-year than anticipated.

One of the most impressive features of the current decline in inflation is the slowdown in wage growth (see Table 8). While most of the slowdown results from slower wage growth in the nonunion sector, which contains most U.S. workers, the slower pace extends to the major collective bargaining sector where union negotiators have in the past been more successful in protecting real wage increases in the face of adverse economic conditions.[4] The settlements in the auto, rubber, and trucking industries illustrate the extent of the slowdown. Traditionally, collective bargaining in these industries has maintained increases in real wages, in addition to scheduled cost-of-living adjustments (COLAs). This year, the settlements broke with tradition in several ways. First, the United Automobile Workers, the Teamsters, and the rubber workers agreed to reopen already-settled contracts, an unusual event. Second, the new contracts in the auto, trucking, and rubber industries contained a temporary freeze on "general" wage increases--that is, wage increases other than COLAs. This implies a small reduction of real wages, because recently negotiated COLAs usually compensate for only about three-quarters of inflation. Third, COLA adjustments were deferred.

---

[4] The ability of workers in concentrated labor markets, including those in the major collective bargaining sector, to maintain real wages in the face of persistent high unemployment was documented in CBO's February economic report. See CBO, The Prospects for Economic Recovery, pp. 70-84.

TABLE 8. EMPLOYMENT COSTS (Percent changes)

Bargaining Status	3 Months Ended[a] June 1981	3 Months Ended[a] June 1982	12 Months Ended June 1981	12 Months Ended Dec. 1981	12 Months Ended Mar. 1982	12 Months Ended June 1982
Employment Cost Index, Compensation						
Union	2.4	1.8	11.5	10.7	9.1	8.4
Nonunion	1.7	1.1	9.8	9.4	7.0	6.5
Employment Cost Index, Wages and Salaries						
Union	2.6	1.5	10.1	9.6	9.3	8.1
Manufacturing	2.3	1.3	9.6	8.9	8.4	7.3
Nonmanufacturing	3.0	1.7	10.6	10.2	10.2	8.8
Nonunion	1.8	0.9	9.0	8.5	7.5	6.5
Manufacturing	2.1	0.8	8.4	8.3	8.2	6.7
Nonmanufacturing	1.7	0.9	9.2	8.6	7.3	6.4

SOURCE: U.S. Department of Labor, Bureau of Labor Statistics.

[a] Not seasonally adjusted, quarterly rates.

The recession, and the high interest rates that caused it, also reduced inflation in two other ways. First, because U.S. interest rates rose relative to foreign rates, the dollar appreciated substantially in foreign exchange markets. This tended to reduce the price of imported goods, not only by cutting consumer prices directly but also by providing greater competition for domestic producers and thus helping hold down prices of domestically produced goods. Second, refined petroleum prices fell about 10 percent between February and May, before returning by July roughly to their levels at the beginning of 1982. The oil price reduction can be traced largely to inventory correction, in turn the result of lower-than-expected worldwide demand for oil products and of high carrying costs for oil inventories. The extent of conservation induced by the 1979-1980 oil price increases does not seem to have been widely different from what was expected by the industry. However, the worldwide recession reduced oil demand by cutting demands for all goods and services, leaving excessive inventories of refined products. In the course of the ensuing inventory correction, oil companies appear to have found that they can operate at a lower inventory/sales ratio than in the past few years. They have a strong incentive to do so in view of high real interest rates. Total U.S. oil inventories were about 25 percent below year-earlier levels in mid-June 1982. The same thing happened worldwide, and the reduction in demand for crude production temporarily pushed down the price of oil despite continued efforts by the OPEC producers to trim production further.

Some of the improvement in inflation may not be permanent. The most recent oil price drop has already reversed itself as the inventory correction neared completion. It seems likely that the dollar price of imported oil will not change much through the end of 1983--in part because any prospective demand increase is likely to be matched by increased OPEC production. This is still a moderately more optimistic outlook for oil prices than was expected at the beginning of 1982. Some of the 1981 and 1982 reduction in inflation is attributable to the strength of the dollar. If the dollar weakens significantly, there may be upward pressure on inflation because of increases in prices of imported goods.

EXPECTATION OF A CONSUMER-LED RECOVERY

The increase in personal consumption expenditures in the first half of 1982 was $2.8 billion lower than expected at the beginning of the year. Virtually all of the consumption shortfall, however, was the result of lower growth in output and income caused by the inventory correction.

Real personal disposable income rose significantly at midyear because of the 7.4 percent Social Security COLA and the 10 percent personal income tax cut. The response of consumers to this increase in after-tax disposable income will be very important to the economic outlook over the next year: strong growth in consumer spending, particularly for durable goods and housing, would stimulate an overall increase in output and employment.

Many analysts believe that consumers are currently in a good position to increase their spending rapidly:

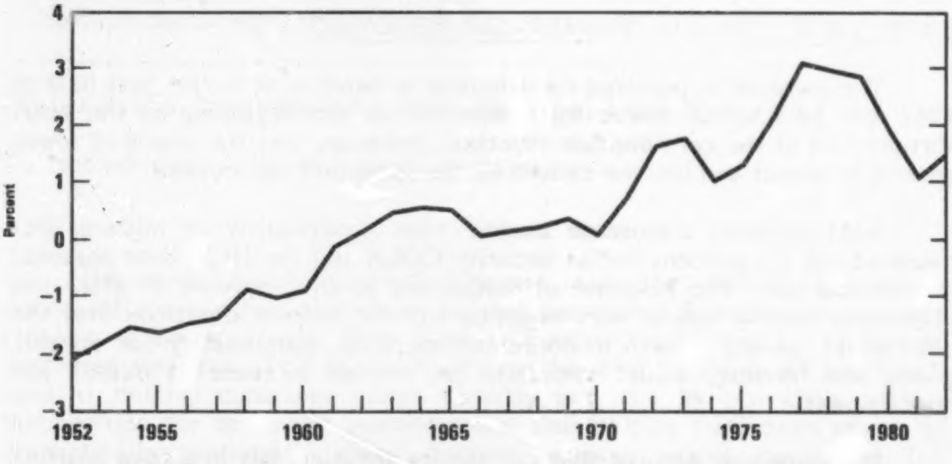
- After two or three years of restraint, some see a pent-up demand for "big-ticket" items such as cars and household appliances.

- Consumers have recently cut back their purchases of houses and reduced their debt. Smaller backlogs of consumer debt reduce the chance that the tax cut will be used to pay off outstanding debts instead of for new purchases.

On the other hand, developments in the housing market are less encouraging. Over the past few years, homeowners have been able to tap the growing equity in their property through second mortgages and realizations on home sales, and may have used the proceeds to support consumption (see Figure 4). Recently, however, house prices have ceased to grow, while mortgage rates have remained very high. This could lead people to increase their consumption by less than otherwise. Moreover, one of the goals of recent fiscal policy has been to provide incentives for saving, and current interest rates, particularly long rates, still provide a substantial real return on saving. Thus it is possible that consumers will save much of the midyear tax cut, and the stimulus to consumption and economic activity could be relatively small.

Figure 4.

Homeowners' Equity Realization



NOTE: Based on equity realized from owner-occupied housing, as a percent of disposable personal income. Equity realization is measured as the increase in households' mortgage liabilities, less the increase in house values after depreciation allowances. First-quarter value plotted for 1982. Equity realization does not reflect GNP revisions.

SOURCES: Federal Reserve Board; U.S. Department of Commerce. Annual data.

WEAKENING OF BUSINESS FIXED INVESTMENT

The decline in business fixed investment over the course of the current cycle has been moderate so far--only about 4 percent compared with an average peak-to-trough decline in postwar recessions of about 9 percent. Such investment remained relatively strong through the first quarter, but dropped at a 12½ percent annual rate in the second quarter of 1982. Investment in nonresidential structures has been supported by continued construction on office-building projects; many of these were started before the current recession, and builders apparently wished to complete them because of high interest rates on construction loans. Investment in producers' durable equipment was supported through the first quarter of 1982 by a boom in office machinery (computers). Aside from these two areas, investment has been about as weak as the average experience of postwar recessions.

There is good reason for investment weakness in the current cycle:

- Capacity utilization is at or near record lows, so there is little need to expand existing productive capacity in the short term.
- According to most forecasts, the recovery from the current recession will be weaker than other postwar cyclical expansions, and will be limited or perhaps aborted by even tighter financial conditions. Thus, there is little reason to expect existing productive capacity to be insufficient for several years to come.
- Until very recently, interest rates have been at unprecedented levels, especially when the slowdown in inflation is taken into account. This increased the cost of capital, offsetting and in many cases more than offsetting the incentive for investment contained in the capital cost recovery provisions of the Economic Recovery Tax Act of 1981.

Short-term indicators of the outlook for investment do not suggest an imminent recovery. Business fixed investment usually turns up one or two quarters after the bottom of a recession as businesses prepare for the need to expand productive capacity during the recovery. Nondefense capital goods orders rose 10 percent in July, but that increase only partly offset the 15 percent decline recorded in May and June. Also, the Commerce Department's April-May survey of capital spending plans points to a further decline in business fixed investment during the second half of the year. The earlier McGraw-Hill survey of business plans for new plant and equipment showed a similar picture. It is possible, however, that capital spending plans will be revised upward if output continues to increase. In the past, spending plans surveys have frequently understated actual capital spending (on a National Income Accounts basis) at cyclical upturns.

SLUGGISH GROWTH ABROAD

The weak growth experienced by the U.S. economy in the past year has been paralleled by weak growth in the world economy generally, and for much the same reason--high U.S. interest rates. In an effort to stem the depreciation of their currencies relative to the dollar--the consequence of capital movements into the United States in search of higher interest returns--many other governments have undertaken restrictive credit policies of their own. The result has been a sharp reduction in foreign economic activity and a significant decline in world trade volume.

The appreciation of the dollar has reduced U.S. competitiveness in world markets, thereby ensuring that U.S. exports bore more than their share of the decline in world trade volume (see Figure 5). Partly for this reason, real U.S. net exports worsened considerably, falling by $8.5 billion between the second quarter of 1981 and the second quarter of 1982.

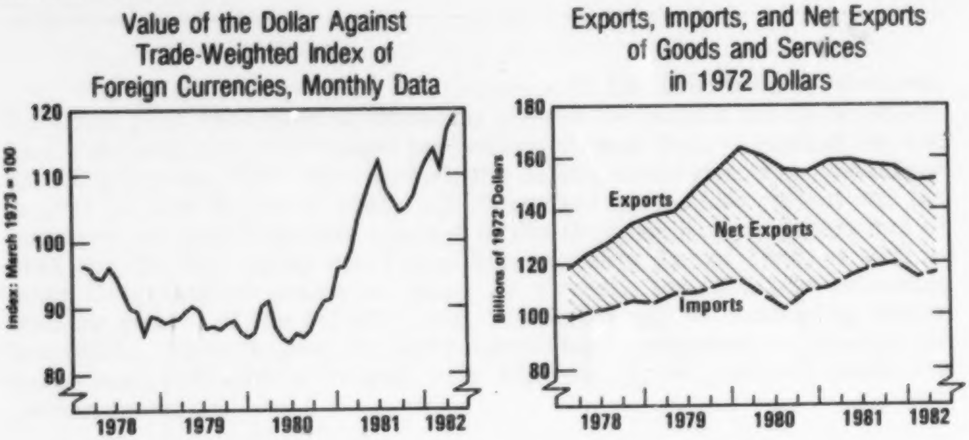
The near-term outlook for U.S. net exports is not particularly promising:

- World economic activity will probably remain anemic. The Organization for Economic Cooperation and Development projects growth among developed industrial countries at 2¼ percent in the second half of 1982 and 2½ percent in 1983. From 1960 to 1980, it averaged just over 4 percent and dipped below 3 percent only in 1974, 1975, and 1980. Projected growth in world economic activity is thus well below trend. Since real growth abroad is not expected to rise relative to U.S. real growth, a sustained improvement in real net exports is unlikely, given existing exchange rates.

- Reductions in U.S. interest rates may not lead to a substantial depreciation of the dollar and an improvement in U.S. competitiveness. The current restrictive financial conditions in other countries reflect in part measures to defend exchange rates. Thus, lower U.S. interest rates could lead to less restrictive policies and more growth in the rest of the world, but not necessarily to a weakening of the dollar.

Figure 5.

International Sector



SOURCE: Federal Reserve Board.

SOURCE: U.S. Department of Commerce.

CONCLUSIONS

The U.S. economy is currently operating at the highest level of unused resources in postwar history, following back-to-back recessions in 1980 and 1981. The current recession was brought on by high real interest rates, which have persisted through the recession. Low levels of economic activity have increased unemployment to 9.8 percent, the highest since the Great Depression of the 1930s, and have contributed to a record federal budget deficit. Inflation, on the other hand, has fallen sharply during the current recession. Chapter III will explore the causes and consequences of the high federal deficit and the reasons for persistently high real interest rates.

Signs of an upturn in economic activity are few, though the recession seems to be at or near its bottom. If recovery begins in the latter half of 1982, it will have to be consumer-led, sparked by July's 10 percent personal tax cut and 7.4 percent Social Security benefit increase; no other component of final demand seems likely to provide as much impetus. However, a slowing of inventory liquidation may point to the end of the large inventory correction that has characterized this recession, and inventory building may soon resume.

blank page

CHAPTER III. FISCAL AND MONETARY POLICY

The policies adopted by the Congress in the first budget resolution for fiscal year 1983 have significantly altered the outlook for fiscal policy. Last February, the CBO budget projections showed that, if current tax and spending policies were not changed, the deficit would rise from $58 billion in 1981 to $208 billion in 1985. CBO's current projections reflect the tax increases and spending cuts enacted in the Omnibus Reconciliation Act of 1982 and the Tax Equity and Fiscal Responsibility Act of 1982, as well as other Congressional action to date. As a result, the CBO now estimates that the growth of the deficit during this period will be reduced by nearly one-third. Nevertheless, Treasury borrowing is expected to increase in fiscal year 1983 and to remain very high during the recovery from the current recession.

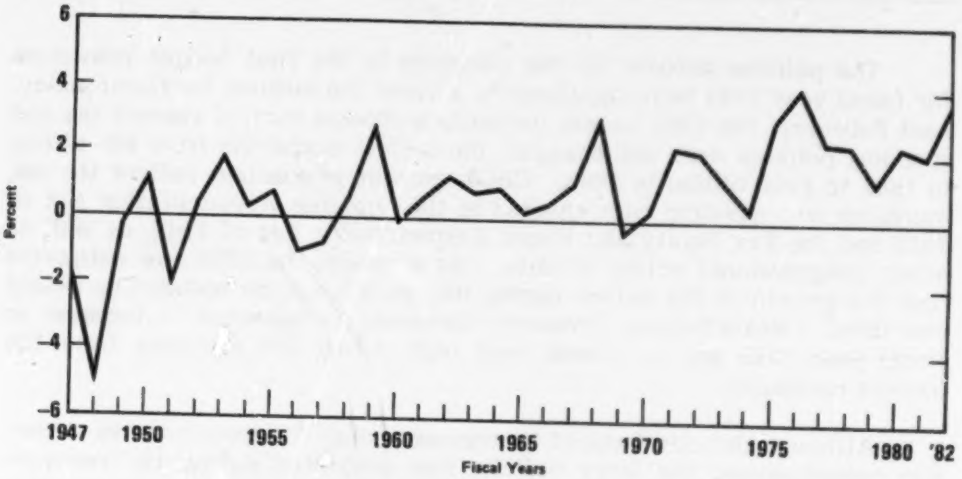
Although deficits induced by recession may not have adverse economic consequences, the large deficits now projected during the recovery with policies currently in place give reason for concern. In combination with restrictive targets for money aggregate growth, they could result in high real interest rates. This could shift the composition of output away from investment, thereby impairing the prospects for longer-run economic growth. Both monetary and fiscal policies appear to have contributed to the unusually high real interest rates during the first half of 1982. On the monetary side, there seems to have been a shift in the demand for money toward greater liquidity that was only partially accommodated by money growth above the upper range of the Federal Reserve's targets. In addition, concern about prospective deficits over an indefinite horizon may have exerted upward pressure on current long-term interest rates.

THE BUDGET DEFICIT AND FISCAL STIMULUS

Fiscal Year 1982. Federal deficits generally rise during recessions as both revenues and expenditures respond automatically to a weak economy. Recession-induced increases in the deficit cushion the decline in private incomes and reduce the intensity of the recession. The current recession is no exception. In 1982 the deficit will be almost as large relative to GNP as the 1976 record (see Figure 6), while in dollar terms, it will be roughly double the deficits recorded in 1980 and 1981, and four times as large as the 1979 deficit (see Table 9).

Figure 6.

Unified Budget Deficits as a Percent of GNP



NOTE: Fiscal year 1982 as forecast by CBO.
SOURCES: Office of Management and Budget; Congressional Budget Office.

The large deficit in 1982 has several causes. In part, it reflects both the effects of high interest rates and the unusual amount of economic slack that existed before the current recession began; the deficit in the last quarter of fiscal year 1981 was substantially larger than the deficits recorded in the peaks preceding previous recessions.

The deficit has been further increased by the large business and individual income tax cuts in the Economic Recovery Tax Act of 1981. The direct budget cost of these tax cuts is estimated to be about $40 billion in 1982. This policy-induced increase in the 1982 deficit is very large. As measured by the change in the high employment budget deficit relative to potential GNP--the high employment budget being defined as the value of the budget under conditions of full employment given federal tax and spending policies--the degree of fiscal stimulus in 1982 was one of the largest one-year shifts in the last quarter century. The increase in the high-employment budget deficit occurred even though cuts in nondefense programs reduced somewhat the rate of growth of total federal spending.

TABLE 9. THE FEDERAL BUDGET (By fiscal year)

	1978	1979	1980	1981	1982 [a]
Unified udget Totals (billions of dollars)					
Revenues	399.6	463.3	517.1	599.3	621.0
Outlays	448.4	491.0	576.7	657.2	733.0
Deficit (-)	-48.8	-27.7	-59.6	-57.9	-112.0
Budget Totals as a Percent of GNP					
Revenues	19.1	19.6	20.1	20.9	20.4
Outlays	21.4	20.8	22.4	22.9	24.1
Deficit	2.3	1.2	2.3	2.0	3.7
Rate of Growth					
Revenues	12.4	15.9	11.6	15.9	3.6
Outlays	12.0	9.5	17.5	14.0	11.5

SOURCES: Office of Management and Budget, U.S. Department of Commerce, and Congressional Budget Office.

[a] CBO estimate.

Given the current slack in the economy, the fiscal year 1982 deficit does not appear to have been a major source of upward pressure on interest rates. But projections of very high deficits in the 1983-1985 period, despite the expected recovery, may have contributed to much higher rates, particularly long rates, than otherwise.

Fiscal Years 1983-1985. Based on the economic outlook presented in this report and on the policies adopted by the Congress in the first budget resolution for 1983, deficits are projected to range between $150 billion and $160 billion during the 1983-1985 period. Treasury borrowing will exceed the reported budget deficit, once the deficits of off-budget agencies are included (see Table 10). The projected deficits incorporate the effects of the tax increases and spending cuts (amounting to $98.4 billion and $280.2 billion, respectively, over the 1983-1985 period) included in the first budget resolution. These tax increases offset about one-quarter of the tax cuts provided by the tax act of 1981.

TABLE 10. THE FISCAL POLICY OUTLOOK (By fiscal year, in billions of dollars)

	1981	1982	1983	1984	1985
Unified Budget Deficit (-)	58	-112	-155	-152	-152
Off-Budget Deficit (-)	21	-18	-18	-18	-18
Total (-)	79	-130	-173	-170	-170
High-Employment Budget Deficit (-)	7	-25	-24	-45	58
Change from preceding year	25	-32	1	-21	-13
As a percent of potential GNP	0.2	-0.7	-0.6	-1.1	-1.3

NOTE: Fiscal years 1982 to 1985 are CBO projections.

SOURCES: U.S. Office of Management and Budget, and Congressional Budget Office.

Measured at high-employment levels of income and employment, the deficit is estimated to have increased by $32 billion in fiscal year 1982. It is projected to remain essentially unchanged in 1983, followed by further increases in 1984 and 1985. The cumulative increase in the high-employment budget deficit between fiscal years 1981 and 1985 is now projected to be about $65 billion indicating that discretionary budget stimulus has been reduced sharply from the $120 billion increase implicit in CBO's projections of last winter. Nevertheless, it may be necessary to take further deficit-reducing measures to avoid a possible clash between monetary and fiscal policy during the recovery.

FEDERAL CREDIT DEMANDS AND "CROWDING OUT"

The extent to which a federal deficit can be expected to crowd out private investment depends on the degree to which federal borrowing increases interest rates. Federal borrowing of a given magnitude does not exert the same upward pressure on interest rates at all times; it depends on the amount and composition of the budget changes, and on general economic conditions.

During recessions, rising deficits are typically not accompanied by higher interest rates because, among other things, private-sector credit demands tend to fall. Indeed, the average experience of previous postwar recessions has been one of reduced total credit demands (including equity financing) by the nonfinancial sectors of the economy relative to GNP. Declines in nonfederal credit demands are normally more than large enough to offset the cyclical increases in federal borrowing (see Table 11).

That does not appear to have been the case in the current recession. Although there was a cyclical decline in nonfederal credit demands relative to GNP, it was not sufficient to offset the unusually strong cyclical increase in federal borrowing. The combination of federal and nonfederal credit demands rose relative to GNP—with monetary policy one of the factors contributing to the high levels of interest rates experienced during the recent recession.

TABLE 11. FUNDS RAISED IN U.S. CREDIT MARKETS BY NONFINANCIAL SECTORS DURING RECESSIONS (Percent of GNP)

	Value at Peak of Cycle	Average Value During Recession
Funds Raised by Nonfederal Sector		
Average in previous six recessions	9.6	8.1
Current recession	9.7	8.6
Funds Raised by Federal Sector		
Average of previous six recessions	0.9	1.4
Current recession	1.9	3.7
Total Funds Raised		
Average in previous six recessions	10.5	9.5
Current recession	11.5	12.3

NOTE: Data for the second quarter of 1982 estimated by the Congressional Budget Office.

SOURCES: Federal Reserve Board; U.S. Department of Commerce, Bureau of Economic Analysis.

If an increase in federal credit demands during a recession is not likely to result in significant crowding out of private financing, strong federal credit demands during a recovery are more troublesome. The projected increase in the deficit in 1983 and the high levels thereafter are likely to compete with higher nonfederal credit demands. Given recent tax changes, however, there are reasons to believe that the increase in nonfederal credit demands will be somewhat smaller than otherwise.[1] The improvement in the cash flow position of U.S. businesses, resulting from the large cuts in business taxes enacted last year, should reduce their external financing requirements below what they would otherwise be. Moreover, insofar as the enhanced savings incentives contained in the Economic Recovery Tax Act of 1981 serve to boost savings, the pool of private funds available to finance increased nonfederal credit demands will be enlarged. The net effect of these tax changes in the budget means that the upward pressure on interest rates may be less than suggested by the size of the deficits. In addition, in view of the projected weakness of the recovery and the low rates of capacity utilization at present, business borrowing for investment purposes is likely to be weaker than usual.

Nevertheless, despite the recent budget changes, federal borrowing is likely to compete more strongly with nonfederal financing requirements in the coming period than it did during the recession. The extent to which it does so will also depend on the posture of monetary policy. If the Federal Reserve continues to pursue a restrictive anti-inflation monetary policy, the flow of funds to nonfederal borrowers could be reduced significantly.

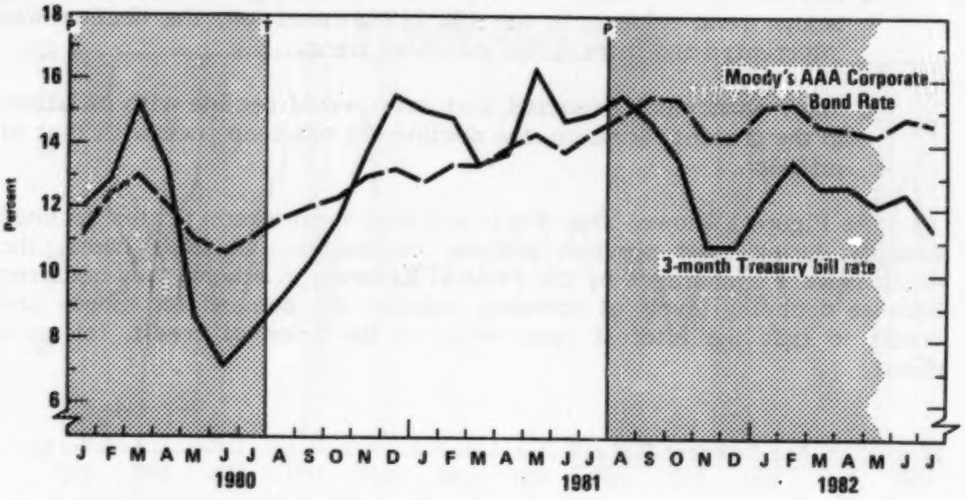
MONETARY POLICY AND RECENT FINANCIAL CONDITIONS

As pointed out in Chapter II, unexpectedly high real interest rates were the most important factor in causing and prolonging the current recession. Most observers, including the CBO, had anticipated that rates would fall because of the recession and the reduced inflation rate. Several explanations have been offered for the fact that they did not fall as much as expected until the sharp declines in August. This section reviews these arguments and assesses the role played by the Federal Reserve's monetary policy.

---

[1] See James Tobin, "Does Fiscal Policy Matter?" Center for Research on Economic Policy, Stanford University, May 14, 1982 (processed).

Figure 7.
Interest Rates Since 1980



NOTE: P and T lines represent business cycle peak and trough dates.
SOURCE: Federal Reserve Board.

Recent Levels of Interest Rates

Short- and long-term interest rates reached record levels in early 1981, just before the recession began (see Figure 7). Short rates declined sharply from July to October; a decline in long rates followed, though it occurred later and was much smaller. Both long and short rates increased again late in the year, however, and remained at high levels during the first half of 1982. Thus, despite some swings, both long and short rates remained at extremely high levels by historical standards during the current recession (and, indeed, during a period of nearly two years before the current downturn).[2] Interest rates did not move down sharply until July and August.

---

[2] As this report goes to press, short-term interest rates have fallen sharply again, perhaps partly in response to an easing of monetary policy.

The levels of interest rates during the December-June period represent a break with past patterns in two important ways:

- o Interest rates usually decline steadily during recessions, falling below trend values. In the 1981-1982 recession, the decline was interrupted and rates remained above trend.
- o Many economists expected that rates would decline with inflation. In the present recession, the decline did not keep pace with that of inflation.

As Figure 8 shows, both short- and long-term interest rates declined steadily during most previous postwar recessions. In some cases, the declines were encouraged by the Federal Reserve; in others, they occurred because declining levels of spending reduced the demand for money and credit so that the interest rate, which is the price of credit, fell as a result.

How High Are Interest Rates?

Nominal interest rates are generally believed to consist of a "premium" that compensates investors for inflation expected to occur during the maturity of a given financial asset, and a "real" interest rate representing the cost of funds after adjustment for expected inflation. Although the expected inflation rate is unobservable and therefore impossible to measure with confidence, the current actual inflation rate is often used as proxy measure for it over the near term. On this basis, some analysts argue that nominal interest rates should decline during periods of declining inflation, since the expected inflation premium may then be declining also.[3] Nevertheless, nominal interest rates remained quite high during the current recession despite declining inflation, and some measures of the real interest rate reached extremely high levels. Figure 9, for example, shows that the real rate for three-month Treasury bills recently reached its highest levels since the Great Depression.[4]

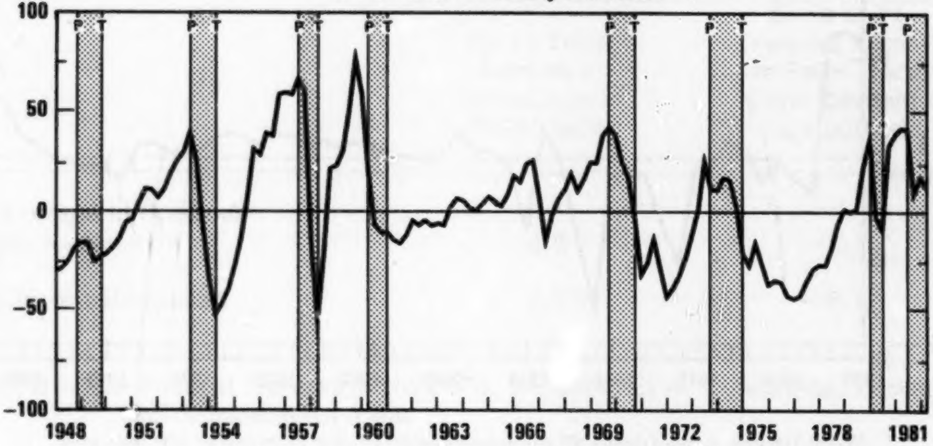
---

[3] For a contrary view, however, see Lawrence H. Summers, "The Nonadjustment of Nominal Interest Rates: A Study of the Fisher Effect," National Bureau of Economic Research Working Paper 836 (January 1982).

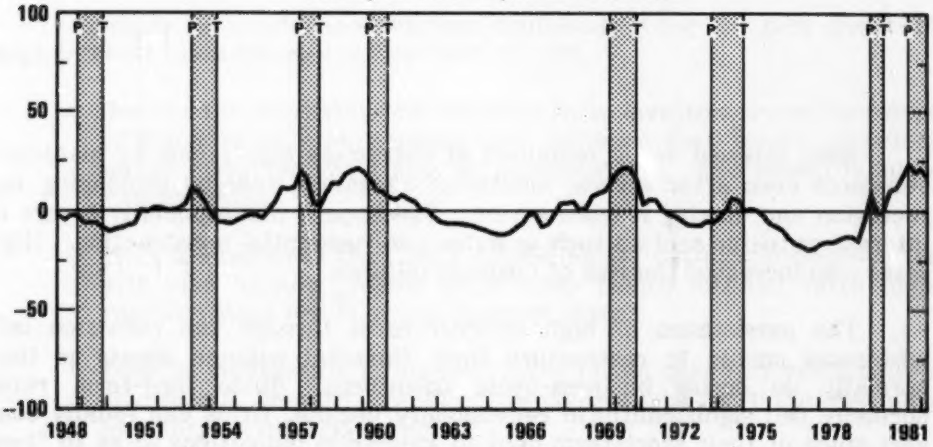
[4] The "ex post facto" real interest rate is computed by assuming that expectations of future inflation are accurate, so that the real rate is the observed interest rate minus the actual inflation rate during the three months after a given bill is issued.

Figure 8.
Deviations of Interest Rates from Trend

Three-Month Treasury Bill Rate

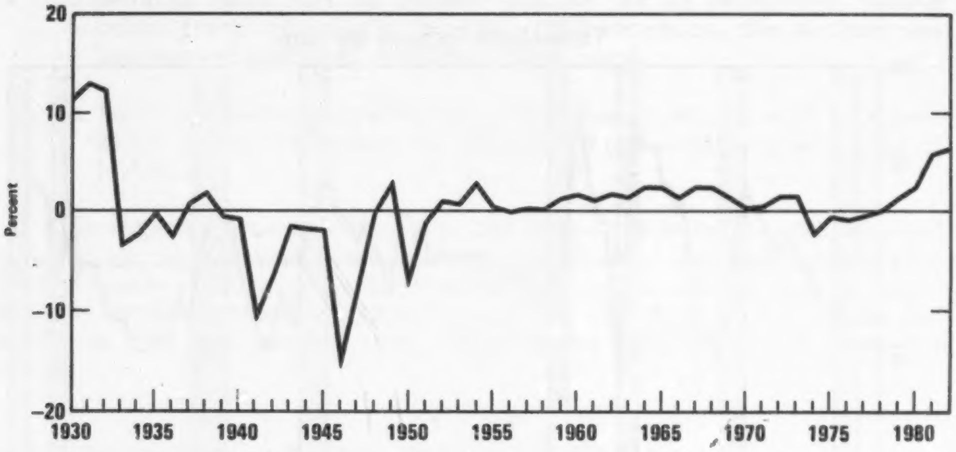


Moody's AAA Corporate Bond Rate



NOTE: P and T lines represent business cycle peak and trough dates.
SOURCES: Federal Reserve Board; Congressional Budget Office.

Figure 9.
Real Interest Rates Since 1930



NOTE: The three-month Treasury bill rate was adjusted for inflation in the quarter after issue, using a measure of the underlying inflation rate based on the Consumer Price Index. Annual data. Value for 1982 represents first half year.

SOURCES: Federal Reserve Board; Bureau of Labor Statistics; Congressional Budget Office.

Real interest rates remained at extremely high levels by historical standards even after several months of recession, thereby prolonging the recession and making it more severe. The impact was especially severe in interest-sensitive sectors such as autos and residential construction. High rates also increased the risk of business failures.

The persistence of high interest rates through the recession left businesses unable to restructure their financial balance sheets as they normally do during business-cycle downturns. Since long-term rates normally fall significantly in recessionary periods, firms can usually convert much of their short-term debt to long-term obligations so as to "lock in" lower financing costs, reduce risk, and improve their cash-flow outlook. Businesses were unable to do this during the current recession. As a result, many firms faced significant cash-flow strains. The outlook for investment was weaker, and the risks of bankruptcy higher, than is usual after several months of recession (see Table 12).

TABLE 12. MEASURES OF NONFINANCIAL CORPORATE LIQUIDITY IN THE FIRST TWO QUARTERS OF POSTWAR RECESSIONS

	Two-Quarter Change In:	
	Short-Term Debt as a Percentage of Total Debt	Ratio of Financial Assets to Short-Term Debt (percentage points)
Average in Previous Six Recessions	-0.2	-2.2
Current Recession	1.5	-12.5

SOURCES: Federal Reserve Board; U.S. Department of Commerce, Bureau of Economic Analysis.

Why Did Interest Rates Remain So High?

Analysts have advanced various explanations for the persistence of high interest rates during the first half of 1982.

- Despite the relatively low inflation rate, investors expected future inflation to be high because they believed that future monetary and/or fiscal policy would be expansionary. This raised nominal interest rates.
- Investors believed that large future budget deficits in combination with slow money growth would keep future interest rates high. This increased levels of real interest rates.
- Volatile movements in interest rates in the past few years caused investors to demand a premium to compensate for the uncertainty associated with such swings.
- Monetary policy kept interest rates high by restricting the availability of credit.
- Inflows of savings from other countries slowed as interest rates in many economies rose, and as the financial surpluses of the oil-

exporting countries, in particular, declined. Some countries may also have been borrowing in U.S. markets to finance exchange-support operations.

Each of these explanations may be partly right. The difficulty comes in deciding how much each of them contributes to the true explanation of recent interest rates.

Expected Future Inflation. Financial market participants may have had several reasons for believing that future inflation rates were likely to be higher than recent inflation rates: (1) the markets may have been concerned that the Federal Reserve would not maintain control of the money supply after the economy began to recover, particularly if large federal deficits put pressure on the Federal Reserve to buy large parts of the Treasury's debt (that is, to "monetize" the debt); (2) large short-term variations in money growth rates may have eroded the public's faith in the central bank's ability or desire to control money growth; and (3) there may also have been fears of an inflationary surge brought about by future price shocks, such as OPEC oil-price increases, or by the direct effect of budget deficits on aggregate demand.[5]

Such arguments would not, however, explain why interest rates were high on financial obligations maturing within a few months. Since the expected rate of inflation over the near term was relatively low, other explanations must be sought for the recent high levels of short-term rates.

---

[5] Many of these points are discussed in Raymond E. Lombra, "Fluctuations in Money Growth and Interest Rates: Is the Fed the Villain?" prepared statement for the Joint Economic Committee, June 16, 1982; and Robert H. Rasche, "Monetary Control and Interest Rates," statement prepared for the Subcommittee on Monetary and Fiscal Policy, Joint Economic Committee, June 16, 1982.

Some tentative empirical evidence supports the thesis that investors expected future inflation rates to be above the recent rates. In particular, Jeffrey Frankel has suggested a method for estimating inflationary expectations using the structure of interest rates; see "A Technique for Extracting a Measure of Expected Inflation from the Interest-Rate Term Structure," Review of Economics and Statistics (February 1982), pp. 135-41. Computations carried out by CBO using this method suggest that current expectations of what inflation will be once the economy returns to its trend growth path are higher than current inflation.

Expected Budget Deficits. If monetary policy continued to be restrictive, future deficits as large as those then expected would "crowd out" private investment by bidding up real interest rates and thus attracting investment funds to federal securities and away from private-sector obligations.[6] This implies that real short-term and long-term interest rates expected for future years may have been high.

Anticipated future rates may have influenced current rates. According to one hypothesis, a current long-term financial obligation is equivalent to a sequence of shorter-term securities that, taken together, have the same maturity as the long-term security. If the interest rates on some of the future short-term obligations in that sequence are expected to be driven up as part of the crowding-out impact of future deficits, then rates on current long-term obligations may rise correspondingly.

Short-term rates may also have been affected. For example, some borrowers who might have preferred to finance their projects by issuing long-term obligations may have been induced by high real long-term rates to issue short-term debt instead (as long as they expected real long rates to fall soon). In effect, factors that may have led directly to high long-term real interest rates may also have implied indirectly that short-term real rates should be higher than otherwise.

Interest Rate Volatility. Interest rates have been more volatile since late 1979 than they were previously. As a result, future values of interest rates and prices may have become more difficult to predict for many financial assets, increasing their risk. Some analysts have argued that investors may require an interest-rate premium to compensate for this risk. Short-term rates, however, are not likely to incorporate a risk premium because the prices of short-term assets are much less sensitive to interest-rate fluctuations.

Monetary Policy. Some economists argue that restrictive Federal Reserve policies were responsible for recent high levels of short-term interest rates.[7] Credit was very tight, but annualized rates of growth of the principal monetary aggregates early in 1982 were not low by recent historical standards (see Table 13). Some have suggested that the apparent rapid growth in money last winter reflected faulty seasonal adjustment, and money growth was really lower than it appeared. More likely, money growth was relatively rapid, but the quantity of money demanded in the economy this year was unusually high. By allowing relatively strong money growth during the last several months, the Federal Reserve may have partially accommodated this increased demand for liquidity, but not sufficiently to prevent short-term interest rates from rising. Because of its importance, this issue is discussed in more detail in the following section.

---

[6] For a detailed discussion of this topic, see Congressional Budget Office, The Prospects for Economic Recovery (February 1982), Chapter V.

[7] See, for example, Martin Feldstein, "Why Short-Term Interest Rates Are High," Wall Street Journal, June 8, 1982, p. 34.

TABLE 13. MONETARY GROWTH RATES (Percent change, fourth quarter to fourth quarter)

Year	Real M1[a]	M1	M2
1978	0.2	8.2	8.2
1979	-1.9	7.4	8.4
1980	-2.8	7.3	9.2
1981	-2.5	5.0	9.5
1982[b]	0.2	5.2	9.5

SOURCE: Federal Reserve Board.

[a] M1 deflated by the personal consumption expenditure (PCE) deflator.

[b] Growth between November 1981 and July 1982, at seasonally adjusted annual rates. The PCE deflator is assumed to grow 6.6 percent in July, at a seasonally adjusted annual rate.

Was There a Money Demand Shift in 1982?

Traditional economic theory indicates that the public's demand for money is determined primarily by the aggregate level of nominal spending and by the levels of short-term interest rates. Increases in GNP raise money holdings because more money is needed to finance the increase in transactions. Increases in interest rates, on the other hand, provide an incentive to economize on cash balances in order to keep larger quantities of funds in assets that pay higher market interest rates. These relationships are summarized in an important concept known to economists as "the demand for money."

A shift in money demand is a change in the money stock that is not related to GNP or interest rates. In the absence of such shifts, the Federal Reserve could be reasonably assured of achieving a desired GNP level by supplying the quantity of money predicted (by the demand-for-money equation) at that GNP level. If GNP was different from the desired level, changes in interest rates would occur bringing it back into line. Unfortunately, the money demand relationship is quite unstable, having shifted several times in recent years, at least for short periods. Such shifts entail the risk that fixed money targets may result in unexpected changes in interest rates, with significant impacts on the economy.

The money demand relationship appears to have shifted in early 1982, resulting in more rapid money growth and higher interest rates than anticipated. Exactly what caused this episode is not yet clear. As noted below, the above-target growth in the money supply during this period can be accounted for by the growth in NOW accounts, which have been available nationwide only since January 1, 1981. The unexpected way in which this new instrument has behaved may turn out to be a purely technical matter, involving seasonal factors or a once-and-for-all adjustment by the economy to the availability of the new type of account (although this seems unlikely). Alternatively, as the discussion below suggests, the episode may have represented a systematic, though perhaps temporary, change in the public's money-holding behavior. In either case, the increased money growth above the Federal Reserve's announced targets helps explain the behavior of short-term interest rates.

Evidence of a Systematic Shift. The most plausible explanation for the recent unexpected growth in money and the rise in interest rates is that the demand for money for precautionary purposes increased sharply last winter—a view consistent with the position maintained by Federal Reserve spokesmen.[8] Some evidence is shown in Table 14. NOW accounts,

---

[8] See the statement by Paul A. Volcker, Chairman, Board of Governors of the Federal Reserve System, before the Joint Economic Committee, June 15, 1982, pp. 6-8; and David E. Lindsey, "Recent Monetary Developments and Controversies," Brookings Papers on Economic Activity, 1982:1, pp. 245-68.

TABLE 14. GROWTH OF SELECTED COMPONENTS OF M1, 1975-1982
(Percent change, fourth quarter to fourth quarter)

	Currency	Demand Deposits	Other Checkable Deposits (Including NOW Accounts)
1975	8.9	3.3	108.3
1976	9.4	4.2	200.0
1977	9.6	7.0	61.3
1978	10.0	6.5	68.6
1979	9.5	3.0	145.6
1980	9.3	3.2	59.1
1981	5.6	-12.6	183.6
1982 [a]	8.7	-3.2	26.4

SOURCE: Federal Reserve Board.

[a] Growth between November 1981 and July 1982: seasonally adjusted annual rates for currency and demand deposits, unadjusted annual rates for other checkable deposits.

which are a component of the money supply, grew much faster than other components, and faster than can be explained by such factors as GNP and interest rates. Because the Federal Reserve partially accommodated this shift, money (M1) as a whole grew much faster than can readily be explained using available estimates of the demand for money. According to Federal Reserve analysts, the shift toward NOW accounts reflected both investor uncertainty regarding the future course of interest rates and doubts about future earnings from labor and nonlabor sources. Accordingly, investors may have been holding an abnormally large share of their funds in highly liquid interest-bearing forms such as NOW or savings accounts.[9]

The growth of money holdings for precautionary purposes is decribed as a "shift" in money demand since it is not predicted or explained by the standard money demand equations based on data for the postwar period. In an effort to estimate the size of the apparent shift early this year, the CBO has compared the actual levels of money holdings in early 1982 with the levels predicted by three prominent formulations of the money demand equation. (The computations are described in detail in Appendix A.) While such equations nearly always predict with an error (meaning that it is difficult to say with complete confidence that a given prediction error reflects a shift in money demand), the amounts by which these equations underpredicted money demand in the first quarter of 1982—$8.2 billion in the smallest case, and $9.4 billion and $9.5 billion in the others—were much larger than acceptable forecast error. This indicates that the demand for money most likely shifted.

The Federal Reserve's recognition that such a shift may have occurred accounts for its decision to accept money growth above the target range during the first and second quarters of 1982. However, monetary policy appears to have accommodated only part of this money demand shift, since the money stock exceeded the upper end of the target range by a smaller amount than a conservative estimate of the shift in money demand. As a result, short-term interest rates may have been higher than they would have been if the money demand shift had been accommodated fully.[10]

---

[9] For econometric evidence in support of this hypothesis, see Flint Brayton, "Econometric Analysis of the Behavior of Savings Deposits," Federal Reserve Board, April 9, 1982. Also see statement by Paul A. Volcker, Chairman, Board of Governors of the Federal Reserve System, before U.S. Senate, Committee on Banking, Housing, and Urban Affairs, July 20, 1982, pp. 6-9.

[10] Computations presented in Appendix A based on statistical money-demand equations suggest that short-term rates might have been between 2.4 and 3.4 percentage points lower during the second quarter of 1982 had the Federal Reserve accommodated the apparent shift fully.

The Federal Reserve's Dilemma

In 1979, the Federal Reserve, under public pressure, changed its operating procedures to reduce the growth of money and credit. The purpose of this change was to slow inflation, even if the policy entailed the risk of prolonged slack in the economy. This strategy of targeting the monetary aggregates presupposes, however, a stable money demand function. In the face of shifts in the demand for money, rigid adherence to monetary targets can cause monetary policy to be more or less restrictive than intended. The apparent increase in the demand for money in early 1982 was an instance in which monetary policy turned out to be more restrictive than anticipated. Unfortunately, the shift occurred during a recession and intensified the decline.

As a means of avoiding unanticipated changes in the restrictiveness of monetary policy, many economists believe that shifts in the demand for money should be accommodated fully. Such an accommodative policy could, however, entail considerable long-run costs. Agents in private markets may reject detailed technical rationales for departures from previously announced targets, viewing any upward adjustment of the targets as a lack of long-run resolve on the part of the Federal Reserve to control inflation. The attendant increase in inflationary expectations could raise nominal interest rates and slow the recovery. As a result, money demand shifts present the monetary authorities with a dilemma for which there is no clear solution.

THE CURRENT OUTLOOK FOR FINANCIAL CONDITIONS

In recent weeks, the public's demand for money appears to have weakened, and M1 is again within the Federal Reserve's announced target ranges. At the same time, both short- and long-term interest rates have declined sharply. During the first three weeks of August, for example, market yields on three-month Treasury bills fell by over 2½ percentage points. Rates on 30-year Treasury bonds, for their part, fell by slightly more than one percentage point.

Two factors appear to underlie the dramatic August decline in interest rates. One is that private forecasts of the state of the economy during the next several months have become more pessimistic. This implies that upward pressures on interest rates from private credit demands may be reduced. Congressional passage of a large tax increase may have contributed to expectations that both private and federal-government credit demands will be weaker than had been thought.

A second factor that may be contributing to declines in interest rates is an apparent easing of monetary policy. Chairman Volcker's recent testimony before Congressional committees indicates that the Federal Reserve is gravely concerned about the adverse effects of high interest rates on business liquidity and about possible prolongation of the recession. The Chairman's statement suggested that the Federal Reserve will consider financial conditions and the state of the economy in setting future money aggregate targets. Thus there does not appear to be an immediate prospect for substantial upward pressure on interest rates from Federal Reserve actions.

In an effort to improve prospects for recovery, the Federal Reserve has announced a tentative decision not to reduce the upper end of the money aggregate target ranges in 1983—a departure from the recent practice of reducing the target growth ranges by half a percentage point every year. It may be difficult, however, to achieve a strong and sustained recovery even if Ml is permitted to grow at a 5½ percent rate, the upper end of the present target range. Experience suggests that present targets are not likely to be consistent with more than 9 percent growth in nominal GNP for a prolonged period. Given the present outlook for inflation, this implies that only moderate growth rates in real output are likely to be sustainable. High real growth rates could be achieved for short periods, but prolonged real growth of more than 4 percent is not likely unless inflation moderates more quickly than anticipated.[11] As the discussion above has suggested, this is because the strong "transactions" money demand associated with rapid economic growth would exceed the supply provided by the Federal Reserve and put upward pressure on real interest rates.

CONCLUSION

As indicated earlier in this chapter, with policies now in place, U.S. Treasury borrowing during fiscal years 1983-1985 is expected to be substantially above the record levels of 1982. In combination with a restrictive monetary policy, very high borrowing could push up real interest rates and thereby crowd out some private borrowing normally associated with a cyclical recovery. Thus, given present federal budget policies, the most serious obstacle to a strong, sustained recovery still appears to be a possible clash between the Federal Reserve's anti-inflationary monetary policy and an expansive fiscal policy.

---

[11] For further discussion of this issue, see the Congressional Budget Office, The Prospects for Economic Recovery, pp. 43-44.

blank page

CHAPTER IV. THE CBO SHORT-RUN FORECAST AND THE PROSPECTS FOR GROWTH THROUGH 1985

Economic developments in the first half of 1982 suggest an improvement in the outlook for inflation but somewhat worse prospects for real growth than foreseen by the CBO last February. High real interest rates and greater-than-anticipated economic slack have had a severe impact on residential construction and business investment, largely negating the immediate potential benefits of the Accelerated Cost Recovery System (ACRS). Accordingly, a sharp rebound in investment in the near future is not expected. Nevertheless, a cyclical recovery in economic growth is anticipated in the near term as the inventory adjustment comes to an end; this should be accompanied by a considerable boost in consumer spending provided by growth in real disposable income, largely resulting from the individual tax cut and the Social Security benefit increase.

Inflation has been somewhat lower than anticipated, reflecting lower import prices, including reduced energy prices, weaker final demands, and a winding down of the underlying momentum in wage and price contracting. The latter factor significantly improves the outlook for inflation. In the long run, a reduction in inflation and inflationary expectations will improve prospects for real growth by making the Federal Reserve's monetary targets less restrictive than they would otherwise be.

THE FORECAST

The revised CBO forecast incorporates the following policy assumptions:

- o Total federal government outlays on a unified budget basis are $733 in fiscal year 1982 and $788 in fiscal year 1983.

- o Fiscal policy includes all provisions of the Economic Recovery Tax Act of 1981 as well as the recently enacted tax increases and spending reductions included in the first budget resolution for fiscal year 1983.

- o M1 grows at a 5½ percent rate through calendar year 1983.

In addition, the forecast includes the following assumptions about food and fuel prices:

- Food prices rise about 5 percent this year and 6½ percent next year.
- World oil prices, denominated in dollars, rise at a near zero rate, substantially less than the underlying domestic rate of inflation over the forecast period.

With these assumptions, the revised CBO current policy forecast, shown in Table 15, can be summarized as follows:

- The range of growth for real GNP on a fourth-quarter-to-fourth-quarter basis is forecast to be from -0.3 to 1.7 percent in 1982, and from 2.7 to 4.7 percent in 1983.
- Inflation, as measured by the GNP implicit price deflator, is projected to be in the 4.9 to 6.9 percent range in 1982, and in the 5.3 to 7.3 percent range in 1983, measured on a fourth-quarter-to-fourth-quarter basis.
- The unemployment rate on a calendar year average basis is forecast to be in the range of from 8.8 to 9.8 percent in 1982 and from 8.3 to 9.3 percent in 1983.
- Short-term interest rates, as measured by the three-month Treasury bill rate, are expected to average 10.0 to 12.0 percent this calendar year, and 9.3 to 11.3 percent next year.

The two most important changes in the outlook since the CBO forecast of last winter are the reduced prospects for business investment over the near term and the lessening of inflation. These developments are both the result of restrictive credit conditions.

- Very high real interest rates, low rates of capacity utilization, and weak corporate profits have prompted a mark-down of planned investment--despite the presence of the Accelerated Cost Recovery System. The intent of fiscal policy--to stimulate business investment--has been largely or completely subverted by high interest rates and excess capacity.
- The improved outlook for food and fuel prices, the cyclical weakness in other commodity prices, and the slowdown in wage growth brought on by growing slack and heightened international competition are all reasons for lowering the inflation forecast.

TABLE 15. THE CBO FORECAST FOR 1982 AND 1983

	Actual		Projected	
Economic Variable	1980	1981	1982	1983
			Fourth-Quarter-to-Fourth-Quarter (percent change)	
Nominal GNP	9.4	9.6	4.7 to 8.7	8.3 to 12.3
Real GNP	-0.7	0.7	-0.3 to 1.7	2.7 to 4.7
GNP Implicit Price Deflator	10.2	8.9	4.9 to 6.9	5.3 to 7.3
Consumer Price Index-Urban Consumers	12.6	9.6	4.2 to 6.2	5.3 to 7.3 [a]
Consumer Price Index-Urban Wage and Clinical Workers	12.6	9.4	4.1 to 6.1	3.3 to 5.3
			Calendar Year Average (percent)	
Unemployment Rate	7.1	7.6	8.8 to 9.8	8.3 to 9.3
3-Month Treasury Bill Rate	11.4	14.0	10.0 to 12.0	9.3 to 11.3
Mortgage Rate [b]	12.7	14.7	14.3 to 16.3	11.8 to 13.8

[a] Reflects shift to new concept in 1983, based on the rental equivalent measure for the current housing component. The CPI-W index is scheduled to be based on this new measure in 1985.

[b] Effective rate on mortgages by all major lenders for purchase of newly built homes.

Reasons for Recovery

A number of conditions lead forecasters to conclude that economic growth may resume later this year and continue into 1983.

- The 10 percent reductions in personal income tax rates in 1982 and 1983 combined with the scheduled Social Security benefit increases should provide a considerable boost to real disposable income and real consumer spending.

- Financial balance sheets of the household sector appear to be in relatively good shape--at least for those households in which at least one member is still employed. Consumer debt is at manageable levels, especially when adjusted for credit card debt and taxes, while mortgage debt has risen slowly in the face of high interest rates.

- Large pent-up demands are thought to exist for new housing and interest-sensitive durable goods such as autos. Most forecasters expect that these demands will once more be felt in the market place if interest rates continue to move down.

- The large inventory correction observed through the second quarter of this year is thought to be nearing completion. As consumption picks up during the second half of 1982, inventories are likely to fall below desired levels and production should strengthen.

Factors Retarding Rapid Growth

The recovery in growth later this year and in 1983 is not expected to be strong by historical standards.

- Although interest rates are expected to decline somewhat, they are projected to remain at levels sufficiently high to retard the expansion of interest-sensitive sectors of the economy such as housing and autos.

- Very high real after-tax rates of return on financial assets, combined with recently legislated saving incentives, make saving attractive at the expense of current consumption. In the longer run, these incentives for saving should have a favorable effect on economic growth, but in the short run they may weaken the recovery in consumer spending.

- The continued strength of the dollar, maintained at least in part by U.S.-foreign interest rate differentials, should hold down the recovery in exports while maintaining relatively high levels of imports.

- The level of uncertainty with respect to future government policies, world energy prices, and the prospects for recovery is currently very high. Such uncertainty can have adverse effects on business investment spending.

The Deceleration of Inflation

The move to a lower path of inflation is generating considerable slack throughout the economy; as reported in Chapter II, the gap between actual and potential real GNP is now at record levels. If a permanent reduction in the inflationary bias in the economy occurs as a result of this slack, then the prospects for growth and reduced inflation during the recovery may be improved. For example, the reopening of wage contracts in several major industries represents a landmark in the wage bargaining process, particularly if it means that competitive considerations and meaningful productivity improvements are to play a larger role in labor-management negotiations.

Sources of Forecast Uncertainty

Perhaps the greatest uncertainty in the economic outlook is the effect of the current monetary-fiscal policy mix on interest rates. The current combination of high federal borrowing and a restrictive monetary policy has no historical precedent. Many economists believe that an easier monetary policy combined with a more restrictive fiscal policy would cause interest rates to fall, thereby generating stronger economic growth at least over the longer term. The Federal Reserve has indicated that it will not undertake a sharp redirection of its policy, however, because the potential benefits for the economy might be negated through higher inflation. Moreover, not all economists agree that an easier monetary policy would cause all interest rates to fall; some argue that a marked shift toward ease could raise inflationary expectations, causing long-term interest rates to remain high.

Another major source of uncertainty in the current economic outlook has to do with unemployment. Although the CBO forecast suggests that unemployment will be in the neighborhood of 8.5 percent in the final quarter of 1983, it could well be higher if the recovery proves weaker than forecast or if the cyclical improvement in productivity growth is stronger than in the historical past.

MEDIUM-TERM PROJECTIONS

The changes in the short-term forecast for 1982 and 1983 imply a somewhat different outlook for the medium term, 1984 and 1985. While the CBO does not forecast economic conditions beyond 1983, it develops noncyclical projections of the economy through 1985 for use in budget calculations. These projections are assumptions about what appear to be attainable improvements in economic conditions over the medium term. They now suggest a lower level of real GNP and a higher level of unemployment for 1984 and 1985 than was anticipated by CBO earlier this year. On the positive side, inflation and interest rates are seen as lower, and the rate of real GNP growth as stronger, than assumed by CBO last February.

Table 16 compares the revised CBO economic assumptions for 1982-1985 with those prepared by the CBO last February and those used for the first budget resolution for 1983. The economic assumptions adopted by the Budget Committees for the first resolution incorporated lower interest rates and higher growth rates for the 1983-1985 period than assumed by the CBO last February.

The highlights of the revised CBO assumptions are as follows:

- Food and fuel prices are both assumed to grow at roughly the rate of underlying inflation in 1984 and 1985. The rate of growth of fuel prices is faster than during the 1982-1983 period, when it averages approximately zero; food prices grow at real rates similar to those of the 1982-1983 period.

- The inflation rate is further reduced because of the absence of energy and food price shocks, weak labor market conditions, and increased productivity gains. The underlying rate of productivity growth is assumed to average about 1½ percent over the two-year period. The growth in the GNP deflator declines from 6.4 percent in 1983 to 5.6 percent in 1985; the CPI goes from 6.2 percent to 5.9 percent over the same period. Further declines in inflation in 1984 and 1985 are inhibited by scheduled increases in social insurance tax rates and the final deregulation of natural gas.

- Interest rates decline as the result of a declining inflation premium and slower growth in the demand for money as inflation drops. The three-month Treasury bill rate averages 10.0 percent in 1984 and 8.9 percent in 1985.

- Labor force growth is assumed to slow in the medium term from recent historical rates because of a slowing of new entrants from the "baby boom" generation and other demographic factors. Labor force growth averages 1.7 percent over the two-year period.

- Real GNP is assumed to grow at a 3.7 percent rate in both 1984 and 1985. This rate, when averaged with 1983, is somewhat lower than the average postwar rate for a cyclical recovery. The rate

TABLE 16. COMPARISON OF ECONOMIC ASSUMPTIONS (By calendar year)

Economic Variable	1982	1983	1984	1985
GNP (billions of current dollars)				
CBO February 1982	3,140	3,515	3,882	4,259
First budget resolution	3,116	3,493	3,875	4,259
CBO Revised	3,090	3,405	3,747	4,105
Real GNP (percent change, year over year)				
CBO February 1982	-0.1	4.4	3.6	3.5
First budget resolution	-0.9	4.5	4.1	3.7
CBO Revised	-1.3	3.6	3.7	3.7
GNP Implicit Price Deflator (percent change, year over year)				
CBO February 1982	7.5	7.3	6.6	6.0
First budget resolution	7.4	7.3	6.6	6.0
CBO Revised	6.6	6.4	6.1	5.6
CPI-U (percent change, year over year)				
CBO February 1982	7.5	6.9	6.9	6.4
First budget resolution	6.9	6.9	6.9	6.4
CBO Revised	6.3	6.2	6.3	5.9
Unemployment Rate (percent, annual average)				
CBO February 1982	8.9	8.0	7.4	7.2
First budget resolution	9.1	8.4	7.6	7.2
CBO Revised	9.3	8.8	8.2	7.8
3-Month Treasury Bill Rate (percent, annual average)				
CBO February 1982	12.0	13.2	11.3	9.4
First budget resolution	12.0	10.7	8.8	6.9
CBO Revised	11.0	10.3	10.0	8.9

NOTE: The CBO economic projections for 1982 and 1983 represent midpoints of the CBO forecast ranges. The figures for 1984 and 1985 are assumptions rather than forecasts.

SOURCES: Conference report on the First Concurrent Resolution on the Budget—Fiscal Year 1983 (accompanying S. Con. Res. 92, reported June 18, 1982); Congressional Budget Office.

> reflects a lower growth in potential output implied by the CBO assumptions of trend productivity and labor force growth, and higher real interest rates than have existed during most post-World War II cyclical rebounds. As in the two-year forecast, real growth in the medium term is constrained by monetary policy, though less severely so as inflation declines.

These projections present a more pessimistic outlook for real growth and interest rates than assumed for the first resolution; they also show higher unemployment and a lower level of output in 1985 than the CBO projected in February. On the other hand, lower rates of inflation and lower interest rates (compared with the February report), suggest that the economy may be poised for sustained growth.

CHAPTER V. THE BUDGET OUTLOOK

Despite successful Congressional actions within the last few weeks to increase federal revenues and reduce spending, the outlook is for continuing large budget deficits during the next three years. Assuming the spending and taxing policies embodied in the first budget resolution for 1983, the CBO's latest budget projections suggest that unified budget deficits will be in the range of $150 to $160 billion for fiscal years 1983-1985, instead of declining steadily as contemplated by the resolution. This outlook stems largely from a revised set of economic assumptions, which project lower real output and lower rates of inflation than were assumed for the first budget resolution. Lower real output and inflation both work to reduce anticipated revenues. Federal spending is also projected to increase above the resolution levels, to a large extent because of higher debt service costs resulting from the larger deficits.

The Congress has recently enacted two major measures designed to implement the budget resolution. The Tax Equity and Fiscal Responsibility Act raised revenues by $100 billion and cut spending by $17 billion in fiscal years 1983-1985. The Omnibus Budget Reconciliation Act of 1982 reduced outlays by an additional $13 billion over the same period. These actions, and the additional spending reductions assumed in the budget resolution but yet to be achieved, will cause future budget deficits to be substantially lower than those in the baseline budget projections prepared earlier this year. The new CBO budget estimates indicate, however, that achieving budgetary balance by the mid-1980s will be much more difficult than was previously thought. In order to achieve significant reductions in the budget deficit, further spending cuts and tax increases will be necessary.

CBO BUDGET PROJECTIONS

Over the next three years, 1983-1985, the CBO projects almost $150 billion less in revenues and about $70 billion more in outlays than specified by the first budget resolution. As a result, the annual budget deficit is projected to average about $155 billion over this period, almost double the three-year average of deficit targets in the first resolution.

The CBO projects revenues in 1983 as growing only slightly over the expected 1982 level of $621 billion. The 1983 CBO estimate of $633 billion is $33 billion below the budget resolution projection of $666 billion, as shown in Table 17. Revenue growth is projected to pick up considerably in 1984 and 1985, but would still fall short of the resolution targets by

$46 billion and $64 billion respectively. Outlays, on the other hand, are projected to be at higher levels than contemplated by the first budget resolution—by $18 billion in 1983, $22 billion in 1984, and $29 billion in 1985. As a result, the projected deficits under budget resolution policies are estimated to exceed the resolution target by $51 billion in 1983, $68 billion in 1984, and $92 billion in 1985.

TABLE 17. FIRST BUDGET RESOLUTION TARGETS AND CBO PROJECTIONS (By fiscal year, in billions of dollars)

Budget Aggregates	1982	1983	1984	1985
Revenues				
First budget resolution	628	666	738	821
CBO projections	621	633	692	757
Outlays				
First budget resolution	734	770	822	881
CBO projections	733	788	844	910
Deficit				
First budget resolution	106	104	84	60
CBO projections	112	155	152	152

The CBO projections are based on the spending and taxing policies assumed for the first budget resolution but reflect the CBO's new short-run economic forecast for 1982-1983 and longer-run assumptions for 1984-1985 as described in Chapter IV. The CBO projections also reflect Congressional action to date on the tax act, the reconciliation act, supplemental appropriations for 1982, and other legislative actions that would affect the spending assumptions in the first budget resolution. In addition, the CBO has incorporated the results of its analysis of actual spending and tax collections to date for fiscal year 1982, a review of the Administration's Mid-Session Review of the 1983 Budget released on July 30, and various other factors that affect budget estimates, such as recent farm crop reports.

The largest part of the differences between the latest CBO budget projections and the first budget resolution targets can be attributed to the deeper-than-anticipated recession and revised economic assumptions for future years. These account for about three-quarters of the revenue reestimates for 1983-1985, one-third of the outlay reestimates, and 60 percent of the projected higher deficits for these years. Congressional action on taxes and spending has essentially conformed to the asumptions of the first budget resolution and has therefore not contributed to the increase in projected deficits over the 1983-1985 period. CBO's technical reestimates account for the remainder of the higher projected deficits. Most of these technical reestimates reflect prior CBO estimates which the Congress chose not to use in the budget resolution. The CBO budget reestimates are summarized in Table 18 and are described in detail below.

TABLE 18. CBO BUDGET REESTIMATES (By fiscal year, in billions of dollars)

	1983	1984	1985	Total 1983-85
Revised CBO Economic Assumptions				
Revenues	-26	-37	-44	-108
Outlays	2	9	13	24
Deficit	28	46	57	132
Congressional Action				
Revenues	-2	2	2	2
Outlays	2	[a]	1	2
Deficit	4	-2	-2	[a]
CBO Technical Reestimates				
Revenues	-5	-11	-22	-38
Outlays	14	14	14	42
Deficit	19	25	36	80
Total Reestimates				
Revenues	-33	-46	-64	-143
Outlays	18	22	29	69
Deficit	51	68	92	212

[a] Less than $500 million.

Effect of Revised Economic Assumptions

As discussed in the previous chapter, the CBO now projects lower real output and higher unemployment for the next several years than were assumed for the first budget resolution. Inflation, on the other hand, is now expected to be less than projected for the resolution. As a result, nominal incomes as measured by the GNP are expected to be lower than assumed earlier, which has a significant effect on federal revenues. The lower inflation outlook also translates into lower outlays for indexed benefit payments such as Social Security. While short-term interest rates in 1982 and 1983 are now expected to be somewhat lower than assumed for the budget resolution, they are projected to exceed the assumed resolution levels in 1984 and 1985. Finally, reduced world demand for oil and the subsequent weakening of the OPEC cartel are projected to slow the rise in oil prices.

Revenues. Table 19 shows the reestimates of first budget resolution revenue targets for 1983-1985 attributable to changes in economic assumptions.

TABLE 19. REVENUE REESTIMATES ATTRIBUTABLE TO REVISED CBO ECONOMIC ASSUMPTIONS (By fiscal year, in billions of dollars)

	1983	1984	1985	Total 1983-85
Individual Income and Social Insurance Taxes	-14	-20	-22	-56
Corporate Profits Taxes	-9	-13	-16	-38
Windfall Profit Taxes	-5	-6	-6	-16
Federal Reserve Earnings	1	1	1	3
Other	1	1	-2	a
Total	-26	-37	-44	-108

[a] Less than $500 million.

The CBO estimate of taxable personal income is $43 billion below the first resolution assumption in 1983 and $72 billion lower in 1985. This reduces individual income taxes below the first budget resolution levels by $8 billion in 1983, $13 billion in 1984, and $13 billion in 1985. Reduced bracket creep due to lower rates of inflation in 1982 and 1983 accounts for some of the reduction in revenue from individual income taxes at the beginning of the period. Social insurance taxes are now estimated to be lower than the first resolution levels by $6 billion in 1983, $8 billion in 1984, and $9 billion in 1985. These reductions reflect lower projected levels of wages and salaries.

The CBO's downward revision in corporate income tax receipts of $9 billion in fiscal year 1983 reflects the downward revisions in profits of $32 billion in 1982 and $31 billion in 1983. (On average, only about one-half of a change in corporate income tax liability in any calendar year is reflected in tax payments in the same fiscal year.) The downward reestimates of corporate income tax revenues increase to $13 billion in 1984 and $16 billion in 1985. By 1985, the CBO estimate of corporate profits is $63 billion below the level assumed in the resolution.

As shown in Table 19, large reductions in projected oil prices result in significant downward reestimates of windfall profit tax revenues of $5 billion (approximately 20 percent of estimated revenues) in 1983, $6 billion in 1984, and $6 billion in 1985. The upward revisions in interest rates in 1984 and 1985 result in upward revisions in Federal Reserve System payments of approximately $1 billion in each of these fiscal years. The $1 billion upward revision in Federal Reserve payments in 1983 reflects, for the most part, a continuation of the payments patterns of the current fiscal year.

Outlays. Table 20 shows reestimates of the first budget resolution outlay targets for 1983-1985 reflecting the change in economic assumptions. Interest costs are projected to be about $33 billion higher over the three-year period, mostly because of higher deficits resulting from changes in other economic assumptions. In addition, as noted in Chapter IV, interest rates in 1984 and 1985 are projected to be somewhat higher than those assumed in the budget resolution, although lower than current rates. Unemployment compensation and related benefits are projected to be moderately higher than assumed for the budget resolution as a result of marginally higher unemployment rates.

Partially offsetting these outlay increases are projected decreases in benefit payments affected by inflation. Outlays for Social Security and other benefits affected by inflation are expected to be about $16 billion lower over the next three years because of lower cost-of-living adjustments (COLAs). The CBO's latest economic assumptions project annual Social Security COLAs of 5.4 percent for 1983, 4.6 percent for 1984, and 5.8 percent for 1985; these compare with 6.5 percent, 7.2 percent, and 6.5 percent assumed for these years for the first budget resolution. Projected COLAs for federal employee retirement programs are 5.1 percent in 1983, 4.3 percent in 1984, and 5.7 percent in 1985.

TABLE 20. OUTLAY REESTIMATES ATTRIBUTABLE TO REVISED CBO ECONOMIC ASSUMPTIONS (By fiscal year, in billions of dollars)

	1983	1984	1985	Total 1983-85
Interest Costs				
Interest rates	-1	5	11	14
Budget deficits	2	6	11	19
Unemployment Compensation and Related Benefits	2	3	2	7
Social Security and Other Benefits Affected by Inflation	-1	-4	-10	-16
Total	2	9	13	24

Effect of Congressional Action

Congressional action to date conforms to the revenue and spending targets specified for 1983-1985 in the budget resolution. The tax act increases revenues by $100 billion over the three years and includes an additional $2 billion in income tax revenues to pay for an expanded program of supplemental unemployment benefits. The act is estimated to raise $2 billion less in revenues than the budget resolution assumed for 1983, but $2 billion more in 1984 and 1985. The tax act and the reconciliation act also achieve the reconciliation outlay savings assumed in the resolution. In addition, the budget resolution and the CBO projections assume that further cuts in entitlement spending and increases in user fees will be made outside the reconciliation process.

The only action to date on appropriation bills that affect the resolution targets has been on 1982 supplemental appropriations. Fewer funds were provided for defense programs in the recently passed omnibus supplemental appropriations bill than was assumed for the budget resolution. This reduction was partially offset, however, by additional funds for nondefense programs. Because none of the 1983 appropriations bills has yet been passed, these projections use the 1983 appropriations levels assumed in the budget resolution.

Effect of Technical Reestimates

In preparing its new budget projections, the CBO has made various technical reestimates of the first budget resolution assumptions. All of the technical revenue reestimates and most of the outlay reestimates date from the time the resolution was adopted, when the conferees on the resolution chose to use Administration estimates for revenues, defense spending, and Outer Continental Shelf (OCS) receipts rather than those of the CBO. The CBO continues to believe, however, that its earlier estimates were reasonable.

Revenues. Almost all of the reestimates on the revenue side are for individual and corporate income taxes, which together represent over half of total revenues. These reestimates lower the growth in these tax sources below the Administration's April baseline projections, which were used for the budget resolution.

The major source of the CBO technical reestimates of the first resolution individual income tax revenues is the CBO's use of lower average effective tax rates. The CBO's effective individual income tax rate declines steadily from 1982 through 1984, reflecting the across-the-board rate reductions scheduled under the Economic Recovery Tax Act of 1981. Another element that contributes to a flattening of the effective tax rate is the projected moderation of inflation, which will result in less bracket creep in the future. In 1985, the first year in which the income tax brackets, the zero bracket amount, and the personal exemption will be indexed for inflation, the CBO projects a continuation of the 1984 effective tax rate. The first budget resolution numbers assumed an effective rate slightly above the CBO rate in 1984 and considerably higher in 1985.

The technical reestimates reduce corporate income tax revenues by approximately $7 billion in 1983 and 1984 and $10 billion in 1985. These reestimates are attributable to three major sources. First, the CBO uses the Joint Committee on Taxation's estimates of the revenue reductions of the non-Accelerated Cost Recovery System provisions of the 1981 tax act rather than the smaller Administration estimates of these revenue reductions. Second, the CBO assumes that part of the reduction in calendar year 1981 corporate tax liabilities due to the ACRS was reflected in tax payments in 1981, while the budget resolution estimates assume that none of the revenue reductions from ACRS affected corporate tax payments until fiscal year 1982. Third, the CBO assumes a steady growth in investment tax credits claimed throughout the period, which lowers corporate tax receipts relative to the first budget resolution estimates in 1982 and 1983.

Outlays. The major CBO technical outlay reestimates are shown in Table 21. In addition to the earlier reestimates, which have been modified somewhat (they are now larger, particularly for fiscal year 1983), the CBO has made other technical reestimates based on later information, such as the latest farm production data and the Administration's Mid-Session Review of the 1983 Budget. Over the three-year period 1983-1985, these technical reestimates total approximately $42 billion.

TABLE 21. CBO TECHNICAL OUTLAY REESTIMATES (By fiscal year, in billions of dollars)

	1983	1984	1985	Total 1983-85
Defense Programs	3	2	2	8
Farm Price Supports	6	3	1	10
Unemployment Compensation	-4	-3	-2	-10
Net Interest	1	4	6	10
OCS Offsetting Receipts	6	4	3	12
Federal Surplus Property Disposition	1	2	2	5
Other (net)	1	2	2	6
Total	14	14	14	42
Previous Technical Reestimates	8	9	11	28
Additional Reestimates	6	5	3	14
Total	14	14	14	42

The CBO's technical reestimate for defense programs results largely from an analysis of actual spending patterns to date. Outlays for weapons procurement programs in 1982 are running $3 billion higher than Administration estimates. The CBO's estimate of procurement outlays is consistent with historical patterns and the large increases in budget authority that have been provided for these programs in the past several years. In addition, the CBO estimates that late enactment of the 1982 supplemental appropriations bill will cause outlays for operations activities to be somewhat higher in 1983 than assumed for the budget resolution.

The large reestimates for 1983 and 1984 farm price support outlays are based on recent crop reports greatly increasing production estimates for corn, wheat, and soybeans. As a result, farm prices are expected to be sharply lower than projected in the first resolution. Export markets hold little hope for price improvement because of a strong dollar, favorable production among competing exporters, and the lack of a long-term grain trade agreement with the Soviet Union. Depressed crop prices, which are currently below the loan rate at the farm, will require the Commodity Credit Corporation to take over grain as farmers default on their commodity loans, with defaults expected to total nearly $1 billion more in 1983 than assumed in the first resolution. Low prices will also result in greater deficiency payments of $1.2 billion on the 1982 crops, $2 billion on the 1983 crops, and $1.6 billion on the 1984 crops. In addition, ending stocks for wheat and corn are estimated to be about 1.1 billion bushels above the levels assumed in the resolution, of which 775 million bushels are expected to enter the reserve in fiscal year 1983, resulting in additional outlays of $2.3 billion. The reserve is projected to remain at these levels until the end of fiscal year 1985 and to require storage payments of $675 million in each year.

The technical reestimate for unemployment compensation is due primarily to lower-than-anticipated beneficiary levels. The insured unemployment rate has not maintained its historical relationship with the total unemployment rate, and consequently unemployment benefits during 1982 have not been as high as would otherwise have been expected. Some reasons for this changed relationship were suggested in Chapter III.

The technical reestimate for net interest largely reflects the cost of servicing the higher deficit levels that would result from using the CBO technical reestimates for both revenues and outlays. The increased interest cost resulting from these higher deficits rises from $2 billion in 1983 to $7 billion in 1985. Partially offsetting these higher costs are revised estimates for intragovernmental interest payments and for other interest receipts.

The first budget resolution adopted the Administration's April estimate of OCS receipts. The Administration has since lowered its estimate (by $370 million in each year) to correct an accounting error. CBO technical reestimate results from less optimistic projections of bonus receipts from new leases and from different assumptions regarding the disposition of sums being held in escrow pending court action. The more conservative bonus receipt estimate is due to various factors--among them, high interest rates, slowly rising oil prices, and state and environmental opposition to the new leasing schedule. Except for fiscal year 1983, these reestimates are identical to those made to the Administration's estimate in April. The 1983 estimate of bonus receipts was lowered to reflect a considerable decrease in U.S. Geological Survey (USGS) reserve estimates for an Atlantic sale, and the relative lack of industry enthusiasm for Gulf of Mexico acreage offered in 1982.

The first budget resolution includes estimated receipts from the sale of surplus real property of $1.4 billion in fiscal year 1983, and $4.4 billion in each of 1984 and 1985. Up to now there has been insufficient information available to evaluate these estimates, which are $100 million higher than the Administration's figures for each of the three years. Based on the progress of the Administration's property sales efforts to date, however, the CBO believes that these receipt estimates are overestimated by at least $0.7 billion in 1983 and $2.2 billion in 1984 and 1985.

An aggressive program will be required to generate even the level of receipts reflected in the CBO estimate, which assumes the sale of between 350 and 500 parcels in fiscal year 1983, at an average price of $1 million to $1.5 million. The surplus property inventory contains approximately 600 parcels, of which it is estimated that as many as two-thirds are not salable. The Real Property Review Board has identified approximately 300 additional parcels to be placed on the market. If all of these parcels are sold in fiscal year 1983, and 200 parcels from the current surplus property inventory are sold, an average sale price of $1.4 million will be required to generate $700 million in receipts. During the first several months of fiscal year 1982, however, the average sale price of surplus property disposed of by the General Services Administration (GSA) was only $725,000. In view of the limited number of parcels currently identified and likely to be salable, and historical sale prices, even the CBO estimate of receipts from this activity may be optimistic.

OVERALL BUDGET TRENDS

Under the latest CBO economic assumptions and the policies of the budget resolution, federal revenues and outlays will grow more slowly than they have in recent years. The prolonged recession and the revenue reductions enacted last year combine to hold revenue growth in fiscal year 1983 to only 2 percent over the estimated 1982 level. The Economic Recovery Tax Act of 1981 and the Tax Equity and Fiscal Responsibility Act of 1982, taken together, are estimated to reduce revenues by $69 billion in 1983, $98 billion in 1984, and $131 billion in 1985 relative to pre-1981 tax law. The reduction totals $297 billion for the 1983-1985 period as a whole.

As the economy recovers from the recession, revenues are projected to pick up in 1984 and 1985, with growth rates of 9 percent in each year. Almost all of the growth in revenues between 1982 and 1985 is in income taxes and social insurance taxes and contributions. Social insurance taxes account for about one-half of the projected increase in revenues between 1982 and 1985. As shown in Table 22, social insurance taxes are projected

TABLE 22. CBO PROJECTIONS OF REVENUES BY SOURCES (By fiscal year, in billions of dollars)

	1982	1983	1984	1985
Individual Income Taxes	297	298	316	346
Corporate Income Taxes	50	47	63	67
Social Insurance Taxes	202	217	240	271
Excise Taxes				
Windfall profit taxes	20	16	15	15
Other	18	22	25	25
Estate and Gift Taxes	8	6	6	5
Customs Duties	9	10	10	11
Miscellaneous Receipts				
Federal Reserve earnings	15	16	16	15
Other	1	1	1	1
Total	621	633	692	757

NOTE: The allocation by tax source of the revenue increases in the Tax Equity and Fiscal Responsibility Act of 1982 is preliminary.

to increase from $202 billion in 1982 to $271 billion in 1985, an increase of about one-third over the period. Individual and corporate income taxes are almost flat between 1982 and 1983. After 1983, income tax revenues pick up. By 1985, individual income taxes are $49 billion higher than the 1982 level and corporate income taxes are $17 billion higher, an increase of about one-third from the depressed 1982 level.

The CBO projects outlays to grow by 7 to 8 percent in the 1983-1985 period. These growth rates are considerably below those experienced in recent years. The slowdown in outlay growth can be attributed largely to actions taken by the Congress and the Administration to curb federal spending.

About one-half of the projected spending increase is for national defense programs. As shown in Table 23, outlays for national defense are estimated to rise from $189 billion in 1982 to $281 billion in 1985, an increase of $92 billion or nearly 50 percent. Other major growth areas of the budget are health and income security programs—primarily Social Security and Medicare—which are projected to grow by $78 billion between 1982 and 1985. The interest function is projected to grow another $39 billion, and outlays for all other functions combined would decrease by $32 billion. About one-half of the projected decrease in these other functions will be derived from higher offsetting receipts.

Early in fiscal year 1982, the federal debt subject to statutory limit exceeded $1 trillion. By the end of fiscal year 1985, under CBO projections, the debt would reach almost $1.7 trillion. Three main elements enter into the calculation of the amount by which the statutory debt limit must be changed: the unified budget deficit, the investment of trust fund surpluses in federal securities, and the deficit of off-budget federal entities. Table 24 shows the estimates for these elements underlying the public debt levels projected by the CBO.

Neither revenues nor outlays are projected to grow as fast as the economy over the next three years. Consequently, as shown in Table 25, both revenues and outlays as a percentage of GNP are projected to decline by about 1.5 percentage points between 1982 and 1985. The budget deficit is expected to be 3.8 percent of GNP in 1985—about the same as estimated for 1982. The first budget resolution also projected a contracting federal sector for 1983-1985, but assumed that outlays would grow less and revenues more than now estimated by the CBO. Thus, the resolution projected a sharp decline in the deficit relative to GNP, from 3.5 percent in 1982 to 1.5 percent by 1985.

TABLE 23. CBO PROJECTIONS OF OUTLAYS BY MAJOR FUNCTION (By fiscal year, in billions of dollars)

	1982	1983	1984	1985
National Defense	189	216	245	281
International Affairs	11	12	12	12
General Science, Space, and Technology	7	8	8	7
Energy	5	5	3	3
Natural Resources and Environment	13	11	10	10
Agriculture	15	15	10	7
Commerce and Housing Credit	4	2	3	2
Transportation	21	20	20	20
Community and Regional Development	7	8	8	7
Education, Training, Employment, and Social Services	27	27	27	27
Health	74	79	87	99
Income Security	249	270	285	302
Veterans' Benefits and Services	24	24	25	26
Administration of Justice	5	5	4	4
General Government	5	5	5	4
General Purpose Fiscal Assistance	6	6	7	7
Interest	100	115	132	139
Allowances	1	-3	-2	-2
Undistributed Offsetting Receipts	-29	-36	-43	-46
Total	733	788	844	910

TABLE 24. CBO PROJECTIONS OF FEDERAL DEBT SUBJECT TO STATUTORY LIMIT (By fiscal year, in billions of dollars)

	1982	1983	1984	1985
Debt Subject to Limit (beginning of year)	999	1,137	1,317	1,497
Increase in Debt Subject to Limit				
Unified budget deficit	112	155	152	152
Trust fund surplus	8	7	10	25
Deficit of off-budget federal entities	18	18	18	18
Total Increase	138	180	180	195
Debt Subject to Limit (end of year)	1,137	1,317	1,497	1,692

CONCLUSIONS

Two major conclusions can be drawn from the latest CBO budget projections. First, they demonstrate once again how sensitive the federal budget is to the economy's performance. Since the economy almost never behaves exactly as forecasters expect, this means that budget estimates may change frequently, sometimes by very large amounts, as shown in this report.

The economic and budget outlook contains a great deal of uncertainty. It is possible that the economy could recover more rapidly than projected by the CBO. Assuming that an economic upswing did not lead quickly to higher inflation, the budget would show higher revenues, lower outlays (primarily from reduced interest costs), and lower deficits. On the other hand, the projected economic recovery could be severely limited. This low-growth scenario would result in lower revenues, higher outlays, and even higher deficits than now projected by the CBO.

Appendix B provides some rough orders of magnitude, or "rules of thumb," for gauging the effects of changes in the economy on the budget.

TABLE 25. TRENDS IN REVENUES AND OUTLAYS (By fiscal year, in percent)

	1982	1983	1984	1985
First Budget Resolution Targets				
Revenues as a percent of GNP	20.6	19.6	19.5	19.9
Outlays as a percent of GNP	24.1	22.6	21.8	21.4
Deficit as a percent of GNP	3.5	3.1	2.2	1.5
Growth in revenues	4.9	6.0	10.8	11.3
Growth in outlays	11.7	4.9	6.8	7.2
Reference: GNP ($ in billions)	3,050	3,398	3,778	4,127
CBO Projections				
Revenues as a percent of GNP	20.4	19.0	18.9	18.9
Outlays as a percent of GNP	24.1	23.7	23.1	22.7
Deficit as a percent of GNP	3.7	4.7	4.2	3.8
Growth in revenues	3.6	1.9	9.3	9.5
Growth in outlays	11.5	7.6	7.1	7.7
Reference: GNP ($ in billions)	3,040	3,323	3,660	4,013

As indicated there, a difference of one percentage point in the projected rate of real economic growth would increase or decrease the estimated 1985 deficit by almost $50 billion. If other economic assumptions also proved to be off the mark, the effect on the deficit could be even greater.

The second major conclusion to be drawn is that substantial additional action will be required to reduce the deficit. With projected deficits of approximately $155 billion, balancing the budget in the next few years is not a realistic objective. Indeed, a reduction in the deficit of sufficient size to balance the budget as early as 1985 would mean a reduction in fiscal stimulus that would not be consistent with continued economic recovery. It is desirable, however, to work in the direction of budgetary balance along the lines contemplated by the budget resolution. Under the CBO projections this will require further spending cuts and tax increases.

Substantial spending reductions will require changes in areas of the budget that have thus far been excluded from major spending cuts—defense and pensions, especially Social Security. By 1985, spending for national defense, Social Security and related programs, Medicare, and net interest will account for three-quarters of federal outlays under the policy assumptions of the first budget resolution, as shown in Table 26. The remaining spending categories—largely nondefense discretionary spending and other entitlements—are those affected most by the reductions of the past two years and also those that are projected to grow most slowly. If the 1985 budget were to be balanced without further reductions in spending for defense and pensions, other noninterest spending would have to be cut by about one-half.

TABLE 26. COMPOSITION OF FEDERAL OUTLAYS (By fiscal year, in billions of dollars)

	Actual 1980	Projection 1985	Change
National Defense (except retired pay)	124	262	138
Pensions and Medicare [a]	182	315	133
Other Entitlements	87	112	25
Nondefense Discretionary	140	138	-2
Net Interest	52	118	66
Other Spending	13	9	-4
Offsetting Receipts [b]	-22	-44	-22
Total	577	910	333

[a] Old-Age and Survivors Insurance, Disability Insurance, Railroad Retirement, Black Lung, Federal Employee Retirement and Disability, Hospital Insurance, and Supplementary Medical Insurance.

[b] Proprietary receipts from the public and employer share, employee retirement.

Under present national priorities and needs, it is unlikely that sufficient spending reductions can be found in the near future to achieve a balanced budget. Therefore, both spending cuts and further tax increases will be needed to balance the federal budget in the coming years.

APPENDIXES

blank page

APPENDIX A. EVIDENCE OF MONEY DEMAND INSTABILITY IN 1982

As Chapter III indicates, the growth of M1 during the first half of 1982 was unexpectedly strong for a period of deepening recession and very high interest rates. The purpose of this appendix is to examine the proposition that the growth in money last winter was not related to transactions demand. The behavior of money demand seems to support this view.

Spokesmen for the Federal Reserve have suggested that much of the growth of M1 since last December has been absorbed by an increase in the precautionary demand for money--that is, the demand for money to hold rather than to spend. In principle, full accommodation of such shifts is consistent with an unchanged monetary policy; failing to accommodate may make interest rates higher than was intended.[1]

The Federal Reserve's assertion that a strong shift toward precautionary money demand has occurred appears to be supported by information on the composition of money growth. As documented in the text of Chapter III, NOW accounts in particular appear to have increased faster than can reasonably be explained except by recourse to a hypothesis of precautionary holdings of such interest-bearing accounts. A second body of evidence, suggesting that money demand has been unstable (regardless of whether the explanation is a shift toward precautionary demand or something else), is contained in the fact that statistical equations for predicting the demand for money consistent with current economic conditions underpredict recent levels of the money supply substantially. This appendix gives a detailed presentation of this latter body of evidence.

---

[1] Federal Reserve documents suggest that a perception that such a money-demand shift was occurring is the main reason that M1 growth was allowed to remain above the target range through the first half of 1982. See Board of Governors of the Federal Reserve System,"Midyear Monetary Policy Report to Congress Pursuant to the Full Employment and Balanced Growth Act of 1978," July 20, 1982.

Three prominent statistical money-demand equations have been reestimated by CBO using current data and concepts. These reestimated equations are used to forecast the level of money demand during 1982 using preliminary actual figures for the explanatory variables. Since all three equations substantially underpredict the demand for money in early 1982, they support the conclusion that a shift has occurred.

The three statistical money demand equations that are used here are those of Goldfeld, Porter and Simpson, and Hamburger.[2] Each is based on a somewhat different theory of the determination of the demand for money. The Goldfeld formulation derives from the notion that money is held strictly for transactions, and the amount held is balanced against the interest earnings forgone in doing so, as reflected in the interest rates on alternative uses of funds such as Treasury bills. The Porter-Simpson approach is similar except that the incentives to reduce cash holdings by implementing sophisticated cash management techniques in the face of very high interest rates are taken into account. The Hamburger formulation, finally, allows for the possibility that money is kept as a means of holding wealth, rather than strictly as a medium for transactions. Each equation has been reestimated over the sample period 1959:2 to 1981:4, using "shift-adjusted" M1 (as defined currently) as the dependent variable.[3]

---

[2] See Stephen Goldfeld, "The Demand for Money Revisited," Brookings Papers on Economic Activity, 1973:3, pp. 577-696; Richard Porter and Thomas Simpson, "Some Issues Involving the Definition and Interpretation of the Monetary Aggregates," in Controlling the Monetary Aggregates II, Federal Reserve Bank of Boston Conference Series, no. 23, October 1980; and Michael J. Hamburger, "Behavior of the Money Stock: Is There a Puzzle?" Journal of Monetary Economics 3 (1977), pp. 265-88.

[3] M1 consists mainly of currency in circulation, travelers' checks and checkable deposits at commercial banks and thrift institutions. The term "shift adjusted" refers to the fact that the figures used here are adjusted by the Federal Reserve for inflows of funds from nontransactions accounts related to nationwide introduction of NOW accounts on January 1, 1981.

The reestimated Goldfeld equation is:

$$\ln(M172) = \underset{(0.845)}{0.085} + \underset{(6.131)}{0.111} \ln(GNP72) - \underset{(-6.213)}{0.018} \ln(RTB)$$

$$- \underset{(-3.509)}{0.028} \ln(RCB) + \underset{(25.160)}{0.855} \ln(M172_{-1})$$

$$- \underset{(-5.625)}{0.019} D74$$

$\bar{R}^2 = 0.984$
Standard error = 0.006

where

Numbers in parentheses are T-statistics
ln is the natural logarithm operator
M172 is M1 deflated by the GNP deflator
GNP72 is GNP in billions of 1972 dollars
RTB is the market yield on 91-day Treasury bills
RCB is the rate on commercial bank saving and consumer time deposits
D74 is a dummy variable assuming the value 1.0 in 1974:2 and subsequently

The equation was estimated by ordinary least squares. The dummy variable was included to account for an apparent shift in the constant term in this equation reflecting innovations in money management techniques beginning in 1974.[4]

---

[4] See R. W. Hafer and Scott E. Hein, "The Shift in Money Demand: What Really Happened?" Federal Reserve Bank of St. Louis Review (February 1982), pp. 11-16.

The Porter-Simpson equation is:

$$
\begin{aligned}
\ln(M1) = -3.4436 &- 0.0205 \ln(RFF) - 0.0010\,S \\
&- 0.0101 \ln(RTB) - 0.0059 \ln(RTB_{-1}) - 0.0026 \ln(RTB_{-2}) \\
&+ 0.0016 \ln(RTB_{-3}) + 0.4411 \ln(PGNP) + 0.3137 \ln(PGNP_{-1}) \\
&+ 0.1863 \ln(PGNP_{-2}) + 0.0589 \ln(PGNP_{-3}) \\
&+ 0.2966 \ln(GNP72) + 0.2090 \ln(GNP72_{-1}) \\
&+ 0.1216 \ln(GNP72_{-2})
\end{aligned}
$$

$\bar{R}^2 = 0.999$
Standard error = 0.0064

where

RFF is the federal funds rate
S is a "ratchet" variable discussed below
PGNP is the GNP deflator

The equation was estimated by ordinary least squares with a Cochrane-Orcutt correction for first-order serial correlation. The coefficients of the Treasury bill rate and real GNP terms were estimated using first-degree Shiller lags, while those for the GNP deflator were estimated using a first-degree polynomial lag. The ratchet variable, S, is derived from the behavior of long-term interest rates and serves as a measure of incentives to implement new cash-management techniques. In the case used here, S is based on the amount by which the five-year Treasury note rate in a given period exceeded its moving average value measured over the preceding ten quarters.[5] This excess is computed for each quarter subsequent to a base period and prior to the current period, and these amounts are then cumulated.

---

[5] The ratchet variable actually used in estimating the Porter-Simpson equation shown here was given by $S = V \cdot \ln V$, where V is the cumulative summation described in the text. For detailed discussion of these variables, see Porter and Simpson, "Some Issues Involving the Definition and Interpretation of the Monetary Aggregates." Unlike the other equations discussed here, this equation is a Federal Reserve estimate over the sample period 1960:2 to 1979:3.

TABLE A-1. AMOUNTS BY WHICH THREE STATISTICAL MONEY DEMAND EQUATIONS UNDERESTIMATE THE LEVEL OF THE STOCK OF MONEY, 1982:1 TO 1982:2

	Goldfeld	Hamburger	Porter-Simpson	Memo: Actual Money Supply (Shift-adjusted)
Absolute Error (billions of dollars)				
1982:1	9.4	8.2	9.5	435.7
1982:2	10.3	8.9	9.5	438.9
Error (ratio to standard error of forecast)				
1982:1	3.4	3.2	a	--
1982:2	3.4	3.4	a	--

a Standard forecast errors are unavailable for the Porter-Simpson equation because of technical complications associated with its relatively elaborate lag structures.

The reestimated Hamburger equation, using ordinary least squares, is:

$$\begin{array}{l} \ln\left(\frac{M1}{GNP}\right) = \underset{(-6.108)}{-\,0.050} \; \underset{(-3.613)}{-\,0.024 \ln(RCB)} \; \underset{(-4.829)}{-\,0.023 \ln(SPY)} \\ \qquad\qquad \underset{(-2.531)}{-0.016 \ln(R20)} + \underset{(68.300)}{0.900} \ln\left(\frac{M1_{-1}}{GNP}\right) \end{array}$$

$\bar{R}^2 = 0.999$
Standard error = .006

where

SPY is the dividend-price ratio on common stocks, Standard and Poor's estimate
R20 is the yield on 20-year Treasury bonds

Table A-1 shows the amounts by which each of these equations underestimates the level of the money stock during each of the first two

best copy available

TABLE A-2. ESTIMATED DECLINES IN SHORT-TERM INTEREST RATES RESULTING FROM FULL ACCOMMODATION OF MONEY DEMAND SHIFTS, BASED ON STATISTICAL MONEY DEMAND EQUATIONS (Percentage points)[a]

	Goldfeld		Hamburger	Porter-Simpson	
	Treasury Bill Rate	Deposit Rate	Deposit Rate	Treasury Bill Rate	Federal Funds Rate
1982:1	1.3	1.0	1.1	2.0	2.2
1982:2	2.4	1.9	3.4	4.0	4.7

[a] In making the Goldfeld computations, it was assumed that the percentage declines in the Treasury bill rate and the passbook rate would be equal. In the Hamburger computation, it was assumed that the Treasury bond rate and the Standard and Poor's stock yield would be unchanged. In the Porter-Simpson computation, it was assumed that the Treasury bill and Federal Funds rates would fall by the same percentage, but that all longer-term rates would be unchanged.

quarters of 1982 when actual values of all variables other than the money supply are substituted. The figures show that each equation underpredicts the actual money supply by a substantial amount. The size of the errors in relation to the "standard" forecast errors leads to rejection at the 95 percent confidence level of the hypothesis that the demand-for-money relationship is unchanged in 1982.

Interest-Rate Impacts of Shifts in Money Demand

The Federal Reserve allowed shift-adjusted M1 to remain approximately $4.7 billion above its target range in 1982:1, and $2.1 billion above in 1982:2, in recognition of a shift like that discussed in this appendix. Assuming that it would have held money growth at the top of the target range in the absence of a shift, the amounts by which the money supply was allowed to rise above the target range represent only partial accommodation of the shift--they are smaller than the estimates of the shift that are shown in Table A-1. Table A-2 shows an estimate from each statistical money demand equation of the amounts by which short-term interest rates would have fallen had the Federal Reserve fully accommodated an estimate of the money-demand shift equal to the prediction error shown in Table A-1 minus the "standard" error of the equation. The computations assume that real GNP, the price level, and longer-term interest rates remain unchanged from their actual levels of the first two quarters of 1982. The results suggest that short-term interest rates might have declined significantly under full monetary accommodation of the recent demand shift. The declines would, of course, be smaller for smaller estimates of the shift.

APPENDIX B. SENSITIVITY OF THE BUDGET TO ECONOMIC ASSUMPTIONS

As noted in Chapter V, the budget outlook is highly sensitive to changes in the economy. This appendix focuses on some rough orders of magnitude, or "rules of thumb," for gauging the effect of changes in the economy on the budget. It examines the impact on budget receipts and outlays of a one-percentage-point change in each of four economic variables: the inflation rate, the unemployment rate, the rate of real economic growth, and interest rates.

To use these rules of thumb properly, their assumptions must be kept carefully in mind. First, changes in economic conditions do not occur in isolation. It is unlikely that a one-percentage-point change in one variable would occur without changes in other variables. For example, real growth and the unemployment rate are both measures of the utilization of productive economic resources. The present estimates assume that higher unemployment is tied to lower growth. Adding together the budgetary effects of lower growth and higher unemployment would, therefore, constitute double counting.

As another example, interest rates reflect commonly held expectations of inflation, which are partially based on past and present inflation rates. These sensitivity estimates do not, however, assume any automatic relationship between interest rates and inflation. If the reader wishes to assume that changes in inflation lead to changes in interest rates, it is necessary to add the budgetary effects of the two economic changes.

Similarly, higher unemployment may result in lower inflation if both reflect a decrease in final demands in the economy. At other times, however, unemployment and inflation may increase simultaneously--for example, in response to an increase in commodity prices. These estimates, therefore, treat changes in unemployment and inflation as entirely separate.

Second, the sensitivity of the budget to the economy depends on the timing of the change. If higher inflation or unemployment is concentrated in the last quarter of the fiscal year, the budget effects will be smaller than if the changes occur early in the year. The changes discussed here are assumed to begin at the start of calendar (not fiscal) year 1983 and to continue for each year thereafter. The first budget resolution for fiscal year 1983, for instance, assumes the unemployment rate to be 8.4 percent in 1983, 7.6 percent in 1984, 7.2 percent in 1985, 6.9 percent in 1986, and 6.7 percent in 1987; the alternative assumes unemployment rates of 9.4, 8.6, 8.2, 7.9, and 7.7 percent.

Third, the levels of the economic variables also affect the sensitivity of the budget to changes in them. A one-percentage-point change in the unemployment rate will result in a greater change in outlays if the level of unemployment assumed for the projections is near the state trigger points for extended unemployment benefits than if the unemployment level is far above or below the trigger points. A change in interest rates will also have a larger effect on outlays the larger the size of the deficits that must be financed. The changes discussed here are computed using as a starting point the economic assumptions, and the deficits as estimated by CBO, of the first budget resolution for fiscal year 1983. Use of these rules of thumb can be inappropriate if the change in economic conditions is substantially different from that assumed for these illustrations.

Table B-1 summarizes the effects on revenues, outlays, and deficits of one-percentage-point changes in the rates of real economic growth, inflation, unemployment, and interest. It demonstrates the following points about the sensitivity of the budget to changes in economic conditions:

- o A reduction in real economic growth or an increase in the unemployment rate will lead to a decrease in revenues, an increase in outlays, and an increase in the deficit.
- o An increase in inflation will lead to an increase in both revenues and outlays, but the effect on revenues will be greater than on outlays so that, on balance, an increase in inflation will lead to a smaller deficit.
- o An increase in interest rates will lead to increases in revenues and outlays. In this case, however, the revenue effect is small, and the overall effect is to increase the deficit.

Further details on the sensitivity of revenues and outlays to economic changes are given below.

REAL GROWTH AND UNEMPLOYMENT

The lower real growth scenario assumes a one-percentage-point drop in the annual rates of increase of real and nominal gross national product

TABLE B-1. THE EFFECT ON BUDGET PROJECTIONS OF SELECTED CHANGES IN ECONOMIC ASSUMPTIONS (By fiscal year, in billions of dollars)

	1983	1984	1985	1986	1987
Real Growth: Effect of One-Percentage-Point Lower Annual Rate Beginning January 1983					
Change in revenues	-9	-23	-35	-45	-60
Change in outlays	2	5	11	17	24
Change in deficit	10	28	46	62	83
Unemployment: Effect of One-Percentage-Point Higher Annual Rate Beginning January 1983					
Change in revenues	-20	-29	-26	-22	-20
Change in outlays	5	10	13	15	17
Change in deficit	25	39	39	37	37
Inflation: Effect of One-Percentage-Point Higher Annual Rate Beginning January 1983					
Change in revenues	6	15	23	32	40
Change in outlays	a	1	5	8	11
Change in deficit	-6	-14	-18	-24	-29
Interest Rates: Effect of One-Percentage-Point Higher Annual Rates Beginning January 1983					
Change in revenues	1	1	1	2	2
Change in outlays	2	6	9	12	14
Change in deficit	1	5	8	10	12

NOTE: Detail may not add to totals because of rounding.

[a] Less than $500 million.

(GNP). It also assumes that a change in real output is associated with a less than proportional change in unemployment, since labor force participation, productivity, and hours worked are also affected. Initially, therefore, a one-percentage-point decline in the growth rate, which will increase the unemployment rate by about 0.4 percentage points in the first year, will have less of an effect on the budget deficit than would a one-percentage-point increase in unemployment. After a few years, however, the continued slower growth rate will result in more than a one-percentage-point increase in unemployment and will cause a larger increase in the deficit. Tables B-2 and B-3 detail the effects of a one-percentage-point decrease in the growth rate and a one-percentage-point increase in the unemployment rate, respectively.

Unemployment compensation is, not surprisingly, the federal spending program that is most sensitive to the unemployment rate. Recent legislation, has, however, made this relationship much smoother than in the past.

TABLE B-2. THE EFFECTS ON BUDGET PROJECTIONS OF A ONE-PERCENTAGE-POINT LOWER REAL GROWTH RATE (By fiscal year, in billions of dollars)

	1983	1984	1985	1986	1987
Medicaid	a	0.1	0.3	0.4	0.5
Social Security	--	--	0.2	0.4	0.6
Unemployment Compensation	0.9	2.2	3.8	5.7	7.4
Food Stamps	0.2	0.4	0.7	1.0	1.3
Assistance Payments	a	0.1	0.3	0.5	0.6
Net Interest	0.6	2.7	5.6	9.0	13.3
Outlays	1.7	5.5	10.9	17.0	23.7
Revenues	-8.7	-22.7	-34.8	-45.3	-59.7
Deficit	10.4	28.2	45.7	62.3	83.4

[a] Less than $50 million.

TABLE B-3. THE EFFECTS ON BUDGET PROJECTIONS OF A ONE-PERCENTAGE-POINT HIGHER UNEMPLOYMENT RATE (By fiscal year, in billions of dollars)

	1983	1984	1985	1986	1987
Medicaid	0.1	0.2	0.3	0.3	0.4
Social Security	--	0.2	0.4	0.4	0.4
Unemployment Compensation					
Regular benefits	1.9	2.9	3.1	3.4	3.7
Extended benefits	1.2	0.6	0.5	0.3	0.2
Subtotal	3.1	3.5	3.6	3.7	3.9
Food Stamps	0.4	0.6	0.7	0.7	0.8
Assistance Payments	0.1	0.3	0.4	0.4	0.5
Net Interest	1.5	4.8	7.6	9.7	11.5
Outlays	5.2	9.6	13.0	15.2	17.5
Revenues	-19.5	-29.5	-26.3	-22.0	-19.9
Deficit	24.7	39.1	39.3	37.2	37.4

In previous years, an increase in the unemployment rate could be sufficient to trigger the extended benefits program that provided an additional 13 weeks of benefits for insured unemployed workers when the national unemployment rate exceeded roughly 7.5 percent. The 1981 Omnibus Budget Reconciliation Act eliminated the national trigger for extended unemployment benefits, leaving only the individual state triggers. Under the new law, a variation of one percentage point in the unemployment rate for a year alters unemployment insurance outlays by about $3-4 billion.[1]

---

[1] Since this appendix was written, Congress has enacted a new federal supplemental compensation program that provides up to ten weeks of additional unemployment benefits. The figures in this appendix do not reflect this latest change in law.

Other spending programs respond to changes in real growth or unemployment with more of a lag. The number of low-income persons eligible for Medicaid, food stamps, and assistance payments grows as unemployment rises. Social Security outlays also vary somewhat with the unemployment rate, since persons who are eligible for benefits on the basis of age or medical condition are drawn onto the benefit rolls in increasing numbers. Interest costs also increase because of the higher deficits resulting from the other increases in spending and the reduction in revenues.

Revenues are much more sensitive to changes in unemployment and real economic activity than are outlays. Initially, the loss in revenues accounts for about four-fifths of the increase in deficits resulting from higher unemployment. The weaker labor market leads to lower incomes, consumers spend less, profits decline, and wage increases are tempered. In later years corporate profits taxes recover somewhat as profits rebound.

INFLATION

About 30 percent of budget outlays are directly indexed to changes in the Consumer Price Index (CPI) or similar indexes. The timing of the inflation adjustment, however, varies among programs. Social Security benefits, for example, are adjusted once a year in July based on the most recent first-quarter-over-first-quarter increase in the CPI. Supplemental security income, railroad retirement benefits, and veterans' pensions are automatically adjusted in a similar manner. Retirement benefits for federal civilian and military personnel are based on a December-over-December CPI increase and are adjusted in the spring. Food stamp benefits are adjusted in January based on changes in the thrifty food plan.

In general, the lagged effects of the indexing provisions mean that a one-point increase in the inflation rate forecast for a particular calendar year would have a relatively small effect on outlays for the same fiscal year. In Social Security, for example, higher (or lower) inflation would significantly affect only the final quarter of the current fiscal year and would have greater effects on the next succeeding fiscal years.

Some outlays, while not explicitly indexed, tend to respond more or less automatically to changes in the inflation rate. These outlays are generally those associated with programs in which the federal government is paying for the cost of services provided to eligible families and individuals, notably Medicare and Medicaid. Unemployment insurance benefits also rise with inflation as workers' money wages grow.

The effects of inflation on the budget are detailed in Table B-4. These calculations make no allowance for adjusting discretionary appropriations for inflation. Such discretionary inflation adjustments are assumed in CBO's baseline budget projections but require explicit legislative action and are not automatic. If included, they would increase the numbers shown in Table B-4 by about $1 billion in 1983, $4 billion in 1985, $10 billion in 1985, $10 billion in 1986, and $14 billion in 1987, including resulting interest costs.

TABLE B-4. THE EFFECTS ON BUDGET PROJECTIONS OF A ONE-PERCENTAGE-POINT HIGHER INFLATION RATE (By fiscal year, in billions of dollars)

	1983	1984	1985	1986	1987
Automatically Indexed Programs					
Social Security (OASDI)	0.2	1.5	3.8	6.3	8.6
Federal employee retirement[a]	--	0.3	0.9	1.4	2.0
Other	--	0.1	0.8	1.5	2.0
Subtotal	0.2	1.9	5.5	9.2	12.6
Indirectly Indexed Programs					
Medicare and Medicaid	0.2	0.7	1.1	1.7	2.4
Other	0.1	0.3	0.5	0.8	1.1
Subtotal	0.3	1.0	1.6	2.5	3.5
Net Interest	-0.3	-1.4	-2.6	-3.9	-5.4
Outlays	0.2	1.5	4.5	7.8	10.7
Revenues	5.7	15.1	22.9	31.9	39.9
Deficit	-5.5	-13.6	-18.4	-24.1	-29.2

[a] Civilian and military.

The sensitivity of federal revenues to inflation has been substantially reduced from previous years' estimates by the Economic Recovery Tax Act of 1981. This diminished sensitivity to inflation is the result of the across-the-board reductions in individual income tax rates that are to be phased in from 1981 to 1984, and the indexing of individual tax brackets for inflation beginning in 1985. Despite these changes in tax law, however, federal revenues still increase significantly with higher inflation as inflation causes taxable personal and busines incomes to rise. These revenue increases and the resulting decreases in debt financing costs substantially more than offset the increased outlays for the indexed benefit programs.

An important assumption underlying these estimates is that the change in inflation is not associated with any change in real economic activity. Nominal incomes are assumed to increase in proportion to the change in inflation. If real economic activity were affected, or if nominal incomes failed to keep pace with inflation, the resulting revenue changes would differ from those shown here.

INTEREST RATES

Higher interest rates primarily affect the costs of new issues of government securities. Thus, the outlay effect of an interest rate change builds up over time as more and more securities are issued, including the refinancing of previous borrowing. The precise outlay effect can vary, depending on whether only short-term rates are assumed to change or whether the change extends to rates for the entire array of government financing instruments (bills, notes, and bonds). Also, outlay effects for a particular year depend on the timing of the interest rate change during the fiscal year. The earlier in the fiscal year the change is assumed to occur, the greater the outlay effect. Increases in interest costs of federal debt held by the public will be somewhat offset by increased interest receipts from off-budget agencies that borrow through the Federal Financing Bank. (Changes in trust fund interest as a result of changes in rates have no effect on net interest outlays.)

In addition to net interest, projections of certain other federal programs are affected by interest rate assumptions. The subsidy cost of guaranteed student loans, for example, automatically rises with increases in the three-month Treasury bill rate. The interest costs incurred by the Export-Import Bank also move with market interest rates.

The only effect of interest rates on revenues considered here is on the amount of Federal Reserve System earnings returned to the Treasury and treated as budget receipts. This is a minor component of revenues, accounting for less than 3 percent of the total. It is assumed here that higher interest rates will increase the Federal Reserve's earnings on its portfolio of government securities. These sensitivity calculations assume that total private taxable incomes are not affected by changes in interest rates.

Table B-5 shows the estimated effects on federal budget projections of a one-percentage-point increase in all government interest rates beginning in January 1983. The indirect effect of financing the larger public debt that would result from higher budget deficits is shown separately from the direct effect of higher interest rates.

TABLE B-5. THE EFFECTS ON BUDGET PROJECTIONS OF A ONE-PERCENTAGE POINT HIGHER INTEREST RATE (By fiscal year, in billions of dollars)

	1983	1984	1985	1986	1987
Net Interest					
Caused directly by higher interest rates	1.9	5.7	8.0	9.5	11.1
Caused by resulting increase in deficit	0.1	0.5	1.1	1.7	2.5
Subtotal	2.0	6.2	9.1	11.2	13.6
Other Outlays	0.1	0.3	0.4	0.4	0.5
Outlays	2.1	6.5	9.5	11.6	14.1
Revenues [a]	0.7	1.1	1.4	1.8	2.1
Deficit	1.4	5.4	8.1	9.8	12.0

[a] This represents only the change in Federal Reserve earnings. The change in interest rates is assumed to have no impact on inflation, real growth, and unemployment.

best copy available